CHAPTER VIII

THE WORK UNDER ARMY ENGINEERS

For about nine months excellent work was done under John F. Stevens, as Chief Engineer, but he became dissatisfied with conditions and in April, 1907, his resignation was accepted. There is reason to believe that for some time the idea had been growing in the minds of the President and Secretary Taft that the work might better be done by engineers of the United States Army, and when the difficulty with Mr. Stevens opened the way for a change, a military organization was installed without delay. In considering the splendid progress that has been made by the Army officers, it should not be overlooked that they found excellent conditions in existence, due to the fine work of the preceding Chief Engineer and of Colonel Gorgas, the head of the Sanitary Department. The former had created order and system out of a state of affairs that was most unpromising. The latter

had banished yellow fever and the fear of it from the Zone, so that there has not been a case of it in more than three years. The labor problem had also been solved and there has been no difficulty about securing a sufficient supply during the past two or more years.

Colonel George W. Goethals, Corps of Engineers, U. S. Army, was appointed Chairman of the Isthmian Canal Commission and Chief Engineer. The other members of the Commission were, Lieut.-Colonel H. F. Hodges, U. S. A.; Lieut.-Colonel D. D. Gaillard, U. S. A.; Lieut.-Colonel Wm. L. Sibert, U. S. A.; Civil Engineer H. H. Rousseau, U. S. N.; Colonel W. C. Gorgas, U. S. A.; and Hon. J. C. S. Blackburn. The only change in the composition of the body has been the appointment of Maurice H. Thatcher in April, 1910, to fill the vacancy occasioned by the retirement of Senator Blackburn.

A complete reorganization of the work was inaugurated, with a view to concentrating authority, to expediting the transaction of business, to securing better coördination, to fixing responsibility more definitely, and to reducing the cost of administration.

Whilst the operation of the Panama Railroad remained, as before, under the direction of a

General Manager, the control of all its business and affairs was placed in the hands of the Chairman of the Commission.

In the organization of the Engineering Department all construction work is divided into three districts, each under a Division Engineer, with full control and responsibility. This Division Chief is answerable directly and only to the head of the Department.

The Atlantic Division extends from deep water to Gatun Lake and includes the great locks and dam. It may be called the most important and difficult section of the operation by reason of the character of the work involved in it. Colonel Sibert is in charge of the Atlantic Division, with Major Chester Harding as assistant.

The Central Division extends from Gatun Dam to the locks at Pedro Miguel. This embraces the Culebra Cut and involves the largest amount of the excavation work. Colonel Gaillard is in charge here with L. K. Rourke as assistant.

The Pacific Division extends from Pedro Miguel to deep water in the Pacific Ocean. It includes Pedro Miguel Locks and dam and the Miraflores locks, dam and tunnel. S. B. Will-

iamson, a civil engineer, is in charge, with J. M. G. Watt as assistant.

In a general way, the work may be divided into three classes: (1) Wet excavation, or that which is performed by dredges. This amounts to 12 per cent of the whole, and the largest proportion of it occurs in the terminal channels. (2) Dry excavation. This includes all material removed by steam shovels and other power excavators, and comprises nearly half of the entire work. (3) The third class covers the construction of locks, dams, and spillways. These account for 39 per cent of the work.

The work of the office of the Chief Engineer was also organized in three divisions. The first is under Colonel H. F. Hodges, who, as Assistant Chief Engineer, has charge of the design of the locks and dams and their appurtenances; he also considers and reports on all questions of a civil engineering nature that may arise in the progress of the work. The second office division is under Mr. H. H. Rousseau, who has charge of all mechanical questions that may arise, looks after expenditures, the preparation of estimates, and supervises cost keeping. The third is under Mr. C. M. Saville, who, as assistant engineer, has charge of all hydrographic and

meteorological work, such general surveys as are not properly included in the scope of either of the construction divisions, and makes such special investigations as may be assigned to him.

In the new plan of organization the Quartermaster's Department is charged with the highly important work of supplying a sufficient force of laborers. The force has steadily increased in numbers, until at the close of April, 1910, there were actually working for the Commission and the Railroad, 33,699 men, this being the largest force on record.

The labor question has always been one of the most difficult involved in the canal construction. Speaking on the subject, when Chairman of the Commission, Theodore P. Shonts declared that "the character of the labor employed on the Isthmus has more to do with the time that it will take to build the canal — more to do with the cost of construction, than any other determining factor." He went on to say that there is no insuperable difficulty in the way of construction with any ordinary class of labor, but the problem is to get such labor as in America would be considered ordinary. The Commission, following in the footsteps of the orig-

inal Panama Railroad and the French canal companies, have tried or investigated labor of nearly every nationality. Oriental coolies might have proved comparatively satisfactory, but for the legal obstacles in the way of employing Orientals. The only way in which it could have been done, that of letting the work out to contract, had many objections against it.

Experiments with Italians were not encouraging. They did not display the necessary vitality and stamina. Spaniards have turned out to be the best class obtainable, but no more than a few thousand can be engaged at one time. These and two or three hundred Portuguese make up the bulk of the Europeans who are found in the force of unskilled laborers.

The Commission has been forced to the conclusion, which was reached by its predecessors in the field, that all things considered, the West Indian negro is the most desirable of any class of labor that can be secured in sufficient numbers. Unfortunately, it is of such poor quality that its employment must entail a serious increase in the cost of construction over what it would be if Americans were available.

The general opinion of those who have had to deal with them is that the efficiency of the West

ARRIVAL AT CRISTOBAL OF S. S. ANCON WITH 1,500 LABORERS FROM BARBADOES, SEPT. 2, 1909.

Indian negroes is not above 33 per cent as compared with the best common labor of the United States. In this connection, Mr. Stevens said: "On the basis of the present rates of pay for West Indian colored labor, which is the lowest grade of labor, we are paying 20 cents silver per hour. . . . The relative efficiency of this labor, as compared to ours at home, is about three to one. In other words, we are paying to-day for this labor $2.40 in gold, or $4.80 in silver. Close inspection of the different gangs, which extend over at least five months, demonstrates very clearly that the average superintendent or foreman, either white from the Northern States, or colored from Jamaica and the other West Indian islands, has never been able to work continuously over 50 per cent numerically of the different gangs. . . . Instead of obtaining a fair continuous amount of labor, as we do from gangs here at home, one-half of the efficiency of this colored labor is lost, owing to their deliberate, unceasing, and continuous effort to do as little work as possible. In other words, instead of our colored labor costing us $2.40 per day, the real situation is that we are paying twice $2.40 gold per day, or almost $5 for eight hours labor."

tion and perfect discipline have been conspicuous features of the new regime. The work has been pushed with a thoroughness and speed that exceed the expectations of Secretary Taft and others who had the utmost confidence in the ability and energy of Colonel Goethals and his aides. There has been no friction on the inside and the work has gone steadily forward during the two years that the present Commission has had the control and direction of affairs.

Until comparatively recent years, the Isthmus of Panama was a hotbed of disease. Dr. Wallace, writing in 1882, declares that, while the actual sanitary condition of the ports of Colon and Panama was comparatively good at that time, it is "well known that small-pox, the yellow fever and the paludal fevers, in their infinite varieties and forms, never are absent in these tropical regions where they are truly endemic."

In September, 1884, the harbor of Colon was full of shipping, among which yellow fever appeared. A British brig lost all her crew but the cook. Other vessels lost in the aggregate upwards of twenty men. In Colon there were one hundred and seventy cases, with a mortality of more than two-thirds. During the same

month the Canal Company buried six hundred and fifty-four of its force. Such epidemics were of frequent occurrence in the period preceding the American occupation. It rarely happened that five years passed without a severe outbreak of yellow fever, and sporadic manifestations of the disease were too common to excite notice. A large proportion of the natives appear to be immune, but the presence of any considerable number of strangers from northern latitudes invariably marked the occurrence of an epidemic of yellow fever. Malaria was rife and even less notice was taken of it. The local authorities did nothing whatever to improve conditions, but, in fact, rather induced the spread of disease by their indifference to sanitary measures. The French companies did their best, under the circumstances, to prevent the increase of disease, and their provision for the care of the sick was admirable, but it was not until the Canal passed into our hands that effective measures for permanent sanitation were put into effect.

It would be impossible to overrate the splendid work which has been done by Colonel Gorgas and his assistants. They produced conditions in which Americans can, by the exercise of or-

dinary discretion, maintain good health in connection with hard work. They have greatly reduced the mortality and sickness among the laborers, and so have proportionally increased the general efficiency of the force. In short, they have converted the entire Canal Zone, including the cities of Colon and Panama, into a region where the dangers and discomforts of living are decidedly less than those that generally prevail in the tropics. It is now admitted that the climate, while enervating, is not in itself especially harmful. Indeed, as will presently be shown, the vital statistics for the present time compare favorably with those of the most healthful portions of the United States.

Without this improvement in sanitation, the work could have been done, if at all, only at great loss of life and health, not to mention an excessive consumption of time. The medical officers responsible for sanitation recognized this from the first, and urged the necessity of subordinating everything else to the improvement of health conditions, but they were not represented on the Commission until the later appointment of Colonel Gorgas as a member. The members of the Walker Commission were not unappreciative of this point of view, but

they could not withstand the impatient demands of the American press that the dirt should be made to fly without delay. It is much to the credit of the sanitary officers that, under discouraging circumstances, they pursued their efforts uncomplainingly and with unimpared zeal.

The Shonts Commission determined to devote its chief energies at the outset to cleaning up the Zone and pushing the sanitation work, realizing that when the health and comfort of the force should be provided for, the work of construction would proceed with fewer casualties, and at a greater rate of speed than if it were to be pushed ahead without such preliminary work.

All along the line of the Canal a campaign was instituted against the two species of mosquito that convey respectively yellow fever and malaria. The experience of Colonel Gorgas and his associates in Cuba enabled them to attack this task with a definite and effective plan. This, whilst simple in its essential features, entailed a vast amount of labor. Since the malaria mosquito can only become infected by sucking the blood of a sufferer from that disease, it was evident that by placing as many of the victims

SANITARY DEPARTMENT DRAIN, NO. 4, TORO POINT, JULY, 1911.

as possible beyond reach of mosquito bite, the insect's source of germ supply would be greatly reduced. Wherever malarial subjects could be found within the Zone, they were isolated in screened rooms until the parasite had been eliminated from their systems. Such, at least, was the aim of the sanitary officers, but it may easily be imagined that a plan of this sort could not be carried out with anything like thoroughness.

At the same time, work was directed toward the destruction of the breeding places of the insects. All along the line long grass and rank vegetation was cut down, marshes were drained, pools were sprinkled with oil, dwellings were cleansed, and stagnant water everywhere removed. This campaign involved an enormous amount of labor and close supervision, but the results have amply justified all the trouble and expense. At the inception of the work, Colonel Gorgas said, referring to similar efforts in Havana: "At the end of about eight months of this work it was found that the number of yellow fever mosquitoes had been greatly decreased, and those that were left could find no human being infected with yellow fever, whereby they, the yellow fever mosquitoes,

might become infected, and thus convey it to other human beings. For the past three years Havana has been free from yellow fever. An unacclimated man can go to Havana now, and though he may probably be bitten a good many times by yellow fever mosquitoes, these mosquitoes have had no opportunity in the past three years of biting a human being infected with yellow fever, and therefore are themselves entirely harmless. This condition we hope to bring about in the villages along the canal route by means similar to those adopted in Havana."

Another interesting quotation from the same source bears on the general health and climatic conditions at Panama. It should be borne in mind that the utterance was given about the middle of the year 1905, since which time the "hope and expectation" expressed by the Chief of the Department of Sanitation have been more than fulfilled.

"The Panama strip is now about as healthy as the ordinary tropical country. The death rate is a great deal higher than that in New York, but this would be the case almost anywhere in the tropics. About twenty people per thousand in New York die every year and about fifty per thousand in Panama. The general

idea about Panama seems to be that we shall suffer as the French did and as all European venturers in Panama did, and that, instead of dying as we do in New York, at the rate of twenty per thousand per year, we shall die, as sometimes occurred to the French and others at Panama, at the rate of five or six hundred per thousand per year. Other men of experience in the tropics, and who have been at Panama for some time, maintain that the matter of sanitation is exceedingly simple and easy, and that the health of the Panama strip ought to be as good as that of most parts of the United States. Both opinions, it seems to me, are extreme, and the truth will fall somewhere between the two. Any health officer with experience in dealing with a practical question of this kind will know how exceedingly difficult it will be in a population of about fifteen thousand (that is the population of the villages along the Canal line) people infected with malaria to devise and apply any system by which the cases can be individually recorded and treated. Personally I approach the problem with hope and expectation of having approximately the same success that rewarded similar efforts applied by our military authorities in Cuba. But it is

no simple matter. We shall, no doubt, meet with disappointments and discouragements, and shall succeed in the end only after many modifications of our plans and after many local failures."

Before describing the present health conditions in the Zone, it will be well, by way of furnishing a comparison, to give a brief statement of what they were during the period of French occupancy. The first work on the Canal was done in 1881, but few men were employed until the following year, when the force numbered nearly 2,000. It was gradually increased until in 1884 the average number of laborers carried on the pay rolls was 17,635. During the eight years in which the operation was carried on by the Panama Canal Company and its successor, an aggregate of 86,812 men were employed, giving an annual average of 10,881. The number treated for illness was 52,814. The number of deaths was 5,627, giving an average per year of 6,535 sick and 703 deaths in a force of less than 11,000.

At the present time all classes of employes on the Canal are comfortably housed and furnished with wholesale food at low cost. In fact, the majority of them live under conditions con-

siderably better in this respect than they would enjoy at home. Extensive provision is made for their recreation, including several club houses at different points operated by the Young Men's Christian Association.

During the year 1908, the death rate among an average white force of 12,058 was 15.34 per one thousand; and among the 5,000 American employes, 8.14 per one thousand. In the force of blacks, averaging 31,000, the mortality was 19.48 per thousand, or less than the average of the City of New York.

During the year 1909, the health conditions in the Zone showed an improvement over the preceding year. The total admissions of employes to hospitals and sick camps, including those sick in quarters, amounted to 46,194, representing for the year 23.49 as the number of men sick daily out of every thousand names on the pay rolls, as against 23.85 for the preceding year. This is a percentage of considerably less than 3, and the majority of the cases were of trivial consequence. The total number of deaths was 530, and assuming that the average number of names on the pay rolls for the various months of the year amounted to 44,261, the number of deaths would be equivalent to a

rate of 11.97 per thousand, as against 18.32 for the preceding year.

This truly wonderful showing is the more remarkable when it is considered that a large proportion of the West Indian laborers who are imported arrive in an underfed condition and many of them suffering from disease. In great degree the improvement in the vital statistics is attributable to the fact that in recent years the negroes have been compelled to take good and sufficient food under the ration regulations. Formerly the matter of food was left entirely to themselves, with the result that many ate irregularly and insufficiently.

The gold employes are compelled to take six weeks vacation in each year, during which full pay is allowed. Until recently they were required to go out of Panama for their holiday, but since the Commission has learned to appreciate the salubrious climate and healthful conditions of the Province of Chiriqui, employes have been allowed to spend their vacations there, if they desire. The establishment of a sanitarium in Chiriqui for the sick and convalescent is under consideration.

Exercising the right acquired under the treaty with the Republic of Panama, the Com-

mission made the most extensive improvements in the terminal ports. Both cities have been paved, cleansed, and supplied with sewer and water systems. In fact, they have been so transformed that they bear little resemblance to the foul and unsanitary centres we found on our arrival at the Isthmus. This work was dictated by practical business policy and an agreement provides for the repayment of the cost of it by the Republic. Had Panama and Colon been left in their former state, the sanitation of the Zone could not have been of much avail. Furthermore, unless these ports are entirely divested of their old reputation as foci of disease, when the Canal is opened to commerce, shipping will take an alternative route whenever that is possible.

When we took over the Canal, the City of Panama was a dirty town of narrow streets, paved with cobble stones. It had neither water nor sewer systems, and the streets were imperfectly drained by means of gutters which were frequently clogged by refuse. The population depended for its water supply upon barrels and cisterns, which were the most favorable breeding places possible for the stegomyia, or yellow fever mosquito. The patios of the

houses were generally littered with rubbish and few persons thought of disinfecting the cesspools.

The cemeteries, which will be described elsewhere, were another serious menace to health. The habits of the majority of the inhabitants were conducive to disease. In short, the conditions in the city were such that the wonder was that death and sickness were not more prevalent among its people.

The Island of Manzanillo, on which the city of Colon stands, is in part below the level of the sea and nowhere more than four feet above it. At high tide considerable portions of it were flooded. This condition precluded the presence of any adequate system of drainage and this city, like Panama, lacked water and sewer services, except for that small section which was occupied by the dwellings of the officials and white employes of the Railroad. This was supplied with water of indifferent quality from a reservoir near Mount Hope, in the vicinity of the cemetery. As for the rest of the population, they enjoyed, if possible, even a less degree of sanitary convenience than the people of Panama.

In both cities the campaign against the mos-

AGUA CLARA RESERVOIR, SHOWING LAKE AND DAM, GATUN WATER WORKS, JULY, 1911.

quito was vigorously carried on in the face of protests by the beneficiaries, who seemed to consider the risk of yellow fever preferable to the discomfort of fumigation. Excellent water supplies were instituted, and all uncovered receptacles for water were thereafter forbidden. The streets of Colon and Panama were paved, and much of the Island of Manzanillo was filled in and drained. An adequate sewer system has been installed in each city, and a good fire department is now established in Panama. Only those who knew these cities at the time of the French occupation can fully appreciate the wonderful transformation that has been effected in them.

In a public address, delivered in August, 1909, Mr. H. H. Rousseau of the Isthmian Canal Commission thus summed up the work of the Sanitary Department:

"The work of the Sanitary Department, under the member of the Commission who has been its head since its organization, has been phenomenally successful, and, by removing the cloud which rested over the Isthmus from its unsanitary and extremely unhealthful condition, and thus making it possible for Americans to live and work there in health and happiness,

it has performed a service of inestimable value toward the construction of the Canal. The present condition has been reached only by persevering hard work. There have been 135 cases but since 1905, nearly four years ago, not a case of yellow fever among employes and 34 deaths, has been known. Similar success has attended the fight against malaria. In 1904, three-fourths of the Zone population were infected with malaria, and in the early days of Canal construction the number of employes treated for malaria in hospitals in a year averaged over 80 per cent of the whole number. It is scarcely one-third of this at present. In the last three years the hotel sick rate of employes has been reduced more than one-half, and the death rate more than two-thirds.

"Over 1,200 men are carried on the pay rolls of the Department of Sanitation, and the expenditures amount to $2,000,000 per annum. It will require constant work and unceasing vigilance to keep health conditions up to the standard which has been established. The total expenses of the Sanitary Department will amount, it is estimated, to about $20,000,000, or a little over 5 per cent of the total cost of the

Canal. Of the total expenditures of the French, less than $2,000,000, or hardly one-half of one per cent, was charged up to hospital service, and practically nothing to sanitation."

CHAPTER IX

ALONG THE LINE OF THE CANAL

At the time that the Panama Railroad operation was inaugurated, the Island of Manzanillo was wilderness, inhabited upon its edges by a few Indians. It was here that the Railroad Company decided to locate its Atlantic terminal. A worse choice could hardly have been made, but no doubt there was good reason at the time for the selection of the site. The town, which grew up on the seashore, was called Aspinwall by the Americans, after one of the promoters of the railway enterprise. The Colombian Government, however, named it Colon. The island is a coral formation covered with sand. Its length is less than a mile and its breadth about six hundred yards. The railroad embankment connects it with the mainland. The town was originally built without any regard to order or convenience. The railroad sheds and shops, and the laborers' shacks, were scat-

tered about promiscuously. As no trees grow upon the island, with the exception of a few wind blown palms on the beach, the site of the town has always been bare and exposed to the full force of the sun's rays.

In the early part of 1885, a revolution broke out in the interior of Colombia. A body of the insurgents threatened the city of Panama, and General Gonima, the officer in charge of a small detachment of national troops at Colon, was ordered to transfer his force, together with the entire police of the town, to the other end of the Isthmus, for the purpose of aiding the defence. Before leaving, General Gonima requested Commander Kane of the United States ship *Galena,* then anchored in the harbor, to afford protection to Colon. It is claimed, with apparent truth, that the naval officer undertook the responsibility. Whether he did so or not, his later action, or rather lack of action, is inexplicable.

No sooner had the Colombian troops and the police left Colon, than one Pedro Prestan gathered about him a gang of ruffians, seized the Prefectura, collected all the arms procurable, and instituted a reign of terror. Many outrages were committed on American citizens, but

Commander Kane took no steps to restore order, although a score of American marines, or jackies, might easily have gained control of the situation. At length, a force was sent from Panama to suppress the disturbance. Prestan went out to Monkey Hill to await the government troops and, for his better protection, placed two prominent Americans in the van of his men. It was midnight before the Panama force arrived at Monkey Hill, and, under cover of the darkness, the Americans contrived to make their escape. At the first fire Prestan's rabble broke and ran back to Colon. Their leader gave the order to fire the town. This was done, and, in the ensuing confusion, the mob looted the stores and houses without interference. With the exception of a few buildings upon the beach, the entire town was burned to the ground.

In the reconstruction of Colon, somewhat more regard was shown for orderliness and sanitation, but the improvement left much to be desired in both respects. The town remains a straggling and unattractive collection of buildings, almost all of them frame, and commonplace in appearance. The exceptions are the hospital structures and the Washington

Hotel, which is maintained by the Commission. The French erected some handsome residences and made an attempt at floral ornamentation, so that the little corner of the island called Cristobal presented a pleasing appearance in contrast to the quarter occupied by the wharves and railroad buildings. On the point at Cristobal stands a large wooden house which was originally the villa of De Lesseps and is now occupied by the officers of the Subsistence Department. This is one of the few places in the town that may excite momentary interest.

The condition of land ownership in Colon is peculiar. Practically all the land is held by the Railroad under its original franchise, the terms of which provided for its reversion to Colombia at the expiration of that franchise. This debars the Panama Railroad from alienating the land. By the treaty of 1904 the Republic of Panama transferred to the United States all its right and interest in this land as the successor of the Republic of Colombia. Therefore, the United States having purchased the Railroad from the French, became the owner of the land, but subject to the restraint that prevented the road from disposing of it by sale. At the expiration of the Panama Railroad Company's

franchise in 1966, this land will be turned over to the United States and the extraordinary condition of one government owning land in the territory of another will arise. No doubt the situation will be adjusted to the entire satisfaction of both governments.

The land is considered very valuable at the present time, and unquestionably will become more so, for even though the Atlantic entrance of the Canal has been moved a few miles away from Colon, that city will grow into increased importance as the terminus of the Railroad, which will have a greater traffic as a result of the operation of the waterway.

The visitor to the Isthmus will not linger any longer than necessary at Colon, but will take the first train possible to Panama, where much of interest awaits him and where he can secure better accommodation than he could in the Atlantic port. There are two or three fairly good hotels in the city of Panama and an excellent one, the Hotel Tivoli, conducted by the Commission at Ancon.

The railroad follows the line of the Canal for the greater part of the way, and the best view of the works is to be had from the windows of the train, unless one is fortunate enough to be

NEGRO BOYS PLAYING CRICKET, COLON.

taken over the construction tracks in one of the division superintendent's cars. There is no lack of guides to point out the particularly interesting spots and explain the character of the work, for every train carries a number of employes, going from one to another of the many stations on business.

A short distance out of Colon, the train enters the famous "Black Swamp," in connection with which many sensational stories are told. This stretch of deep bog broke the hearts and the purses of the first railroad contractors. In places they failed to find bottom at two hundred feet. Tons upon tons of trees and rock were thrown into the fearful quagmire before a stable basis for a roadbed could be made. Even at that it was not permanently stable, for many times since then the ground has caved in. It is said that within the past three years, one hundred and fifty feet of track, with some rolling stock upon it, fell through and disappeared within a few hours.

In places the road runs through dense jungle, where the vegetation maintains an incessant struggle to reach the light and air. Here and there a pathway has been cut and, looking up the dark lane thus formed, one may catch a

glimpse of a shack standing in the most unhealthful situation imaginable. Here some negro, tired of work, has located with his family and abandoned himself to a life of solitude and sweet do nothing. Strangely enough, people who settle in the dark, damp, misty depths of the jungle appear to enjoy fairly good health, and no doubt this is due to the fact that they have been accustomed to similar surroundings in their own country.

At frequent intervals lengths of rusty track and long since abandoned machinery will be discerned beneath their covering of weeds. Heaps of stone or brick mark the remains of old French buildings, and here and there, in out of the way spots, small wooden crosses denote the burial places of former Canal laborers. The frequency with which these graves were encountered before the extension of our work necessitated the clearing away of most of them, would give the impression that under the French many of the dead must have been buried where they dropped.

A fine view of the works at Gatun can be had from the train. The passenger looks over the lake site and passes close to the dam and locks, which are progressing so rapidly that the scene

ISTHMIAN CANAL COMMISSION CLUB HOUSE, CULEBRA.

will have assumed quite a different aspect when he returns ten days or so later. Over 22,000,000 cubic yards of earth will be required to make the dam. About 2,000,000 cubic yards of concrete will be required for the locks. On May 21, 1910, one-eighth of the amount had been laid. This was placed by eight mixers at the daily average rate of 2,918 cubic yards.

All along the line, at a few miles' distance from each other, are stations, and at each is a little town inhabited by the Canal employes. Each is an orderly settlement with good roads, attractive and often handsome houses for the gold force and comfortable dwellings for the negro laborers. At several of the larger stations are club-houses and bachelor hotels.

Culebra is the engineering headquarters of the Commission. John F. Stevens first established it here in his desire to be in the midst of his work and always on the spot. It has been at Culebra ever since, and Colonel Goethals now has his residence, as well as his offices, at that place.

The highest point in Culebra Hill was 312 feet before the cut through it was begun. The French excavated down to about 161 elevation, but without sufficient breadth to comply with

follows: Shovel No. 107, Earth 19,284 cubic yards; Rock, 19,676 cubic yards; Total 38,960. Shovel No. 105, Earth 35,000 cubic yards; Total 35,000 cubic yards. Shovel No. 117, Earth 32,900 cubic yards, Rock, 1,800; Total 34,700."

In the past two years, upwards of seventy million cubic yards of material have been excavated. The amount is nearly equal to the total excavation done by both French companies. But it must be admitted that we have a great advantage over them in the character of the machinery now in use. One of our shovels has taken out more than 50,000 cubic yards of earth in twenty-five working days. Nothing approaching this was possible with the best machines possessed by the French. Furthermore, the French had more and greater setbacks from landslides in the Cut than have occurred to us, although we have had some bad ones.

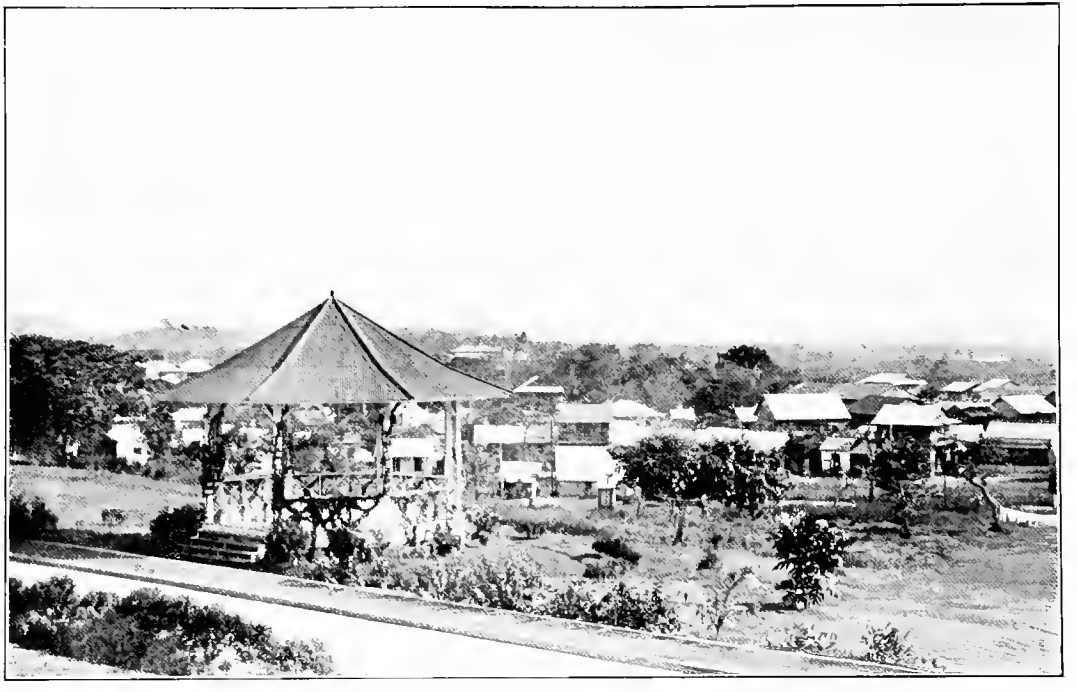
Still, the difference in results is not by any means a matter of machinery only; men and methods have as much to do with it.

The train runs on to La Boca, the port of Panama, situated about one mile to the east of the city, but most of the passengers alight at Ancon. Here are the administrative head-

quarters of the Commission with offices in a handsome stone building well up toward the top of the hill. Ancon is on the outskirts of Panama, one merging into the other without a perceptible division.

The Tivoli Hotel is the largest and most prominent building at Ancon. It is constructed somewhat on the lines of the best summer hotels of fashionable resorts in the States. The appointments are handsome and every effort is made to insure the comfort of the guests. The rate of about $6 a day for room, bath and meals is generally considered too high, especially as the Commission's employes can get the same accommodation at half the price. Despite the cost, however, nearly all American visitors to the Isthmus put up at the Tivoli in preference to enduring the discomforts of a city hotel.

At the Tivoli one encounters interesting persons from every quarter of the globe. They come in at both ports and from every direction. A dance is held at the hotel every Saturday night, the music being furnished by the "I. C. C." band. To one accustomed to life in the tropics elsewhere, it is surprising to see Americans perspiring in heavy dress suits. A



NATIVE SHACKS, FROM THE VERANDAH OF THE TIVOLI HOTEL, ANCON.

sprinkling of foreigners in the conventional white dress of the British tropical colonies set them an example which, for some inexplicable reason, they decline to follow. In fact, our people are singularly backward in adopting the customs that experience has proved to be conducive to comfort and health. The bills of fare at the Tivoli are very similar to those of a hotel in New York, or Boston. Several kinds of meat are offered at breakfast, and you may see Americans who have a day's work before them under the trying conditions of heat and humidity, eating unrestrainedly of beef and bacon at seven o'clock in the morning, and within half an hour of rising. Europeans in the tropics break their fast with a slice of toast and a cup of coffee, then take some easy exercise before eating a light breakfast. The natives of Panama eat an egg and a roll the first thing and postpone breakfast until three or four hours later.

In one important respect, at least, our men on the Isthmus are adapting themselves to the requirements of the tropics. There is very little drinking of spirituous liquors. This lesson was learned very promptly when it became evident that the heavy drinker could not last,

both because his health would not stand the abuse and because as soon as he became marked for a toper he was shipped home.

The most beautiful spot in Ancon is the hospital enclosure. The French planted trees and flowers abundantly about the grounds and our people have improved on both the buildings and their surroundings. A number of new structures have been added to the original aggregation. Among these are a group of buildings in which the insane of the Republic of Panama as well as those of the Canal Zone are cared for.

NOTE: — The latest information on the progress of the work on the Canal is given in Part II, Chapter XI, Page 397.

PART II

THE COUNTRY

CHAPTER I

PANAMA VIEJO

THE site of Old Panama is a favorite resort of visitors and residents of the Canal Zone. It is about six miles from the modern city, and may be reached by a ride over the savannas and along the sea beach, or directly by boat. The latter mode of approach is not to be recommended to parties including women, or children, for a strong surf breaks on the shore and makes landing a somewhat dangerous process. The ruins of Panama Viejo are overgrown with dense vegetation and a considerable portion of them has not been seen by the eye of man in two hundred years. Enough is, however, accessible to make the place unusually interesting and to attest to the substantial manner in which the Spaniards of old erected their buildings. The tower of the Cathedral of St. Anastasius rises above the tangle of tropical jungle and affords a prominent landmark. In

the days of Panama's prosperity and pride, this was the focal point of the city, for the Church was more powerful than the temporal authority. A fine old stone bridge, in a good state of preservation, is a picturesque reminder of the period when the "Gate to the Universe" stood on this spot. There are remains of fortifications and dungeons, and the famous "paved way," which was, in reality, no more than a road of cobblestones, may be seen where the forest is not too dense to penetrate.

In its palmy days Old Panama was the seat of wealth and splendor such as could be found nowhere else in the world than the capitals of the Orient. At the court of the Governor gathered noblemen and ladies of gentle birth. There were upwards of seven thousand houses in the place, many of them being spacious and splendidly furnished mansions. The monasteries, convents, and other ecclesiastical edifices were numerous, and contained vast amounts of treasure in their vaults. There were fine public buildings devoted to various purposes, among them pretentious stables in which were housed the "King's horses," the valued animals that carried the "King's treasure" across the Isthmus to Porto Bello, whence it was shipped to

Spain. A constant stream of gold, silver, pearls, and other valuables passed through Panama and a fair proportion of it stayed there. Panama had the name of the wealthiest city in the world. Its fame spread far and wide and proved to be its undoing. The story of the hoarded riches in the almost unguarded city on the shores of the South Sea aroused the cupidity of the buccaneers and stimulated the demon daring of Morgan to make a raid upon it. Panama Viejo was destroyed in the very zenith of its glory. In a few hours it fell, never to rise again.

The story of the Morgan raid and sack of Panama is an intensely interesting one. No account of it is so authoritative as that of Esquemeling, who was one of the band, exists. The following is an exact reproduction of the original. The story gains by the quaint language of the writer and the circumstantial detail with which he tells it:

Capt. Morgan, always communicated vigor with his words, and infused such spirits into his men as were able to put every one of them instantly upon new design; they being all persuaded by his reasons, that the sole execution of his orders would be a certain means of obtaining great riches. This persuasion had such

influence upon their minds, that with inimitable courage, they all resolved to follow him. The same likewise did a certain pirate of Campeche, who on this occasion joined with Capt. Morgan, to seek new fortunes under his conduct, and greater advantage than he had found before. Thus Captain Morgan in a few days gathered a fleet of nine sail, between ships and great boats, wherein he had four hundred and three score military men.

After that all things were in a good posture of readiness, they put forth to sea, Capt. Morgan imparting the design he had in his mind to nobody for that present. He only told them on several occasions, that he held as indubitable he should make a good fortune by that voyage, if strange occurances altered not the course of his designs. They directed their course towards the continent, where they arrived in a few days upon the coast of Costa Rica, with all their fleet entire. No sooner had they discovered land than Capt. Morgan declared his intentions to the Captains, and presently after to all the rest of the company. He told them he intended in that expedition to plunder Porto Bello, and that he would perfrom it by night, being resolved to put the whole city to the sack, not the

least corner escaping diligence. Moreover, to encourage them he added: This enterprise could not fail to succeed well, seeing he had kept it secret in his mind without revealing it to anybody; whereby they could not have notice of his coming. To this proposition some made answer: They had not a sufficient number of men wherewith to assault so strong and great a city. But Captain Morgan replied: If our number is small our hearts are great. And the fewer persons we are the more union, and better shares we shall have of the spoil. Hereupon, being stimulated with the ambition of those vast riches they promised themselves from their good success, they unanimously concluded to venture upon that design. But, now, to the intent my reader may better comprehend the incomparable boldness of this exploit, it may be necessary to say something beforehand of the city of Porto Bello.

The city which bears this name in America is seated in the province of Costa Rica, under the latitude of ten degrees north, at the distance of fourteen leagues from the Gulf of Darien, and eight westwards from the port called Nombre de Dios. It is judged to be the strongest place that the King of Spain possesses in all

the West Indies, excepting two, that is to say, Havana and Cartagena. Here are two castles, almost inexpugnable, that defend the city, being situated at the entry of the port; so that no ship or boat can pass without permission. The garrison consists of three hundred soldiers, and the town constantly inhabited by four hundred families, more or less. The merchants dwell not here, but only reside for awhile, when the galleons come or go from Spain; by reason of the unhealthiness of the air, occasioned by certain vapours, that exhale from the mountains. Notwithstanding, their chief warehouses are at Porto Bello, howbeit their habitations be all the year long at Panama, whence they bring the plate upon mules at such times as the fair begins and when the ships, belonging to the Company of Negroed, arrive here to sell slaves.

Capt. Morgan, who knew very well all the avenues of this city, as also all the neighboring coasts arrived in the dusk of the evening at the place called Puerto de Naos, distant ten leagues toward the west of Porto Bello. Being come to this place, they mounted the river in their ships, as far as another harbour called Puerto Pointin where they came to an anchor. Here they put themselves immediately into boats and canoes,

leaving only a few men to keep them and conduct them the next day to the port. About midnight they came to a certain place called Estera longa Lemos, where they all went on shore, and marched by land to the first post of the city. They had in their company a certain Englishman, who had been formerly a prisoner in those parts, and who now served them for guide. To him, and three or four more, they give commission to take the sentry, if possible, or kill him upon the place. But they laid hands on him and apprehended him with such cunning, that he had no time to give warning with his musket, or make any other noise. Thus they brought him, with his hands bound to Captain Morgan, who asked him: How things went in the city, and what forces they had: with many other circumstances, which he was desirous to know. After every question, they made him a thousand menaces to kill him, in case he declared not the truth. Thus they began to advance towards the city, carrying always the said sentry before them. Having marched about one-quarter of a league, they came to the castle that is near the city, which presently they surrounded, so that no person could get either in or out of the said fortress.

Being thus posted under the walls of the castle, Capt. Morgan commanded the sentry whom they had taken prisoner, to speak to those within, charging them to surrender, and give up to his discretion; otherwise they should be all cut to pieces, without giving quarter to any one. But they would harken to none of these threats, beginning instantly to fire; which gave notice to the city and this was suddenly alarmed. Yet, notwithstanding, although the Governor and soldiers of the said castle made as great resistance as could be performed, they were constrained to surrender to the Pirates. These no sooner had taken the castle, than they resolved to be as good as their words, in putting the Spainards to the sword, thereby to strike a terror into the rest of the city. Hereupon, having shut up all the soldiers and officers as prisoners into one room, they instantly set fire to the powder (whereof they found great quantity), and blew up the whole castle into the air, with all the Spaniards that were within. This being done, they pursued the course of their victory, falling upon the city, which as yet was not in order to receive them. Many of the inhabitants cast their precious jewels and moneys into wells and cisterns, or hid them in other

places underground, to excuse, as much as possible, their being totally robbed. One party of the Pirates being assigned to this purpose, ran immediately to the cloisters, and took as many religious men and women as they could find. The governor of the city not being able to rally the citizens, through the huge confusion of the town retired to one of the castles remaining, and thence began to fire incessantly at the Pirates. But these were not in the least negligent either to assault him or defend themselves with all the courage imaginable. Thus it was observable that, amidst the horror of the assault, they made very few shots in vain. For aiming with great dexterity at the mouths of the guns, the Spainiards were certain to lose one or two men every time they charged each gun anew.

The assault of this castle where the Governor was, continued very furious on both sides, from break of day until noon. Yea, about this time of the day the case was very dubious which party should conquer or be conquered. At last the Pirates, perceiving they had lost many men and as yet advanced little towards the gaining either this, or the other castles remaining, thought to make use of fireballs, which they

threw with their hands, designing if possible to burn the doors of the castle. But going about to put this into execution, the Spaniards from the wall let fall quantities of stones and earthern pots full of powder and other combustible matter, which forced them to desist that attempt. Capt. Morgan seeing this generous defence made by the Spaniards, began to despair of the whole success of the enterprise. Hereupon, many faint and calm meditations came into his mind; neither could he determine which way to turn himself in that straitness of affairs. Being involved in these thoughts he was suddenly animated to continue the assault by seeing the English colours put forth at one of the lesser castles, then entered by his men, of whom he presently after spied a troop that came to him, proclaiming victory with loud shouts of joy. This instantly put him upon new resolutions of making new efforts to take the rest of the castles that stood out against him; especially seeing the chief citizens were fled to them, and had conveyed thither great part of their riches, with all the plate belonging to the churches and other things dedicated to divine service.

To this effect, therefore, he ordered ten or

twelve ladders to be made in all possible haste, so broad that three or four men at once might ascent by them. These being finished, he commanded all the religious men and women whom he had taken prisoners to fix them against the walls of the castle. This much he had beforehand threatened the Governor to perform, in case he delivered not the castle. But his answer was: He would never surrender himself alive. Capt. Morgan was much persuaded that the Governor would not employ his utmost forces, seeing religious women and ecclesiastical persons, exposed in the front of the soldiers to the greatest dangers. Thus the ladders, as I have said, were put into the hands of religious persons of both sexes; and those were forced, at the head of the companies, to raise and apply them to the walls. But Capt. Morgan was fully deceived in his judgment of this design. For the Governor, who acted like a brave and courageous soldier, refused not, in performance of his duty, to use his utmost endeavours to destroy whoever came near the walls. The religious men and women ceased not to cry to him and to beg him by all the Saints of Heaven that he would deliver the castle, and hereby spare both his and their own lives. But nothing could

prevail with the obstinacy and fierceness that had possessed the Governor's mind. Thus many of the religious men and nuns were killed before they could fix the ladders. Which at last being done, though with great loss of the said religious people, the Pirates mounted them in great numbers, and with no less valour; having fireballs in their hands, and earthern pots full of powder. All which things, being now at the top of the walls, they kindled and cast in among the Spaniards.

This effort of the Pirates was very great; insomuch as the Spaniards could no longer resist nor defend the castle, which was now entered. Hereupon they all threw down their arms, and craved quarter for their lives. Only the Governor of the city would admit or crave no mercy; but rather killed many of the Pirates with his own hands, and not a few of his own soldiers, because they did not stand to their arms. And although the Pirates asked him if he would have quarter, yet he constantly answered: By no means: I had rather die a valiant soldier than be hanged as a coward. They endeavoured, as much as they could, to take him prisoner. But he defended himself so obstinately that they were forced to kill him;

notwithstanding all the cries and tears of his own wife and daughter, who begged of him upon their knees he would demand quarter and save his life. When the Pirates had possessed themselves of the castle, which was about night, they enclosed therein all the prisoners they had taken, placing the women and men by themselves, with some guards upon them. All the wounded were put into a certain apartment by itself, to the intent that their own complaints might be the cure of their own disease; for no other was afforded them.

This being done, they fell to eating and drinking after their usual manner; that is to say, committing in both these things all manner of debauchery and excess. After such manner they delivered themselves up to all sort of debauchery, that if there had been found only fifty courageous men, they might easily have retaken the city, and killed all the pirates. The next day having plundered all they could find, they began to examine some of the prisoners (who had been persuaded by their companions to say they were the richest of the town), charging them severely to discover where they had hidden their riches and goods. But not being able to extort anything out of them, as they were

not the right persons who possessed any wealth, they at last resolved to torture them. This they performed with such cruelty that many of them died upon the rack, or presently after. Soon after, the President of Panama had news brought him of the pillage and ruin of Porto Bello. This intelligence caused him to employ all his care and industry to raise forces, with design to pursue and cast out the Pirates thence. But these cared little for what extraordinary means the President used, as having their ships near at hand, and being determined to set fire to the city, and retreat. They had not been at Porto Bello fifteen days, in which space of time they had lost many of their men, both by the unhealthiness of the country and the extravagant debaucheries they had committed.

Hereupon they prepared for a departure, carrying on board their ships all the pillage they had got. But, before all, they provided the fleet with sufficient victuals for the voyage. While these things were getting ready, Captain Morgan sent an injunction to the prisoners that they should pay him a ransom for the city, or else he would by fire consume it to ashes, and blow up all the castles into the air. Withal, he

commanded them to send speedily two persons to seek and procure the sum he demanded, which amounted to one hundred pieces of eight. To this effect, two men were sent to the President of Panama, who gave him an account of all these tragedies. The President having now a body of men in readiness, set forth immediately towards Porto Bello to encounter the Pirates before their retreat. But these people, hearing of his coming, instead of flying away, went out to meet him at a narrow passage through which of necessity he must pass. Here they placed an hundred men very well armed; who at the first encounter, put to flight a good party of those of Panama. This accident obliged the President to retire for that time, as not being yet in a posture of strength to proceed any farther. Presently after this encounter he sent a message to Capt. Morgan to tell him: That in case he departed not suddenly with all his forces from Porto Bello, he ought to expect no quarter for himself nor his companions when he should take them, as he hoped soon to do. Captain Morgan who feared not his threats, knowing he had a secure retreat in his ships which were near at hand, made him answer: He would not deliver the castles, before he had received the

contribution-money he had demanded. Which in case it were not paid down he would certainly burn the whole city, and then leave it; demolishing beforehand the castles, and killing the prisoners.

The Governor of Panama perceived by this answer that no means would serve to mollify the hearts of the Pirates, nor reduce them to reason. Hereupon he determined to leave them; as also those of the city, whom he came to relieve, involved in the difficulties of making the best agreement with the enemies. Thus, in a few days more, the miserable citizens gathered the contribution wherein they were fined, and brought the entire sum of one hundred thousand pieces of eight to the Pirates, for a ransom of the cruel captivity they were fallen into. But the President of Panama, by these transactions, was brought into an extreme admiration, considering that four hundred men had been able to take such a great city, with so many strong castles; especially seeing that they had no pieces of cannon, nor other great guns, wherewith to raise batteries against them. And what was more, knowing that the citizens of Porto Bello had always great repute of being good soldiers themselves, and who had never

wanted courage in their own defence. This astonishment was so great, that it occasioned him, for to be satisfied herein, to send a messenger to Capt. Morgan, desiring him to send him some small pattern of those arms wherewith he had taken with such violence so great a city. Capt. Morgan received this messenger very kindly, and treated him with civility. Which being done, he gave him a pistol and a few small bullets of lead, to carry back to the President, his master, telling him withal: He desired him to accept that slender pattern of the arms wherewith he had taken Porto Bello, and keep them for a twelvemonth after which time he promised to come to Panama and fetch them away. The Governor of Panama returned the present very soon to Capt. Morgan giving him thanks for the favor of lending him such weapons as he needed not, withal sent him a ring of gold with his message: That he desired him not to give himself the labour of coming to Panama as he had done to Porto Bello; for he did certify to him, he should not speed so well here as he had done there.

After these transactions, Capt. Morgan (having provided his fleet with all necessaries, and taken with him the best guns of the castles,

nailing the rest which he could not carry away) set sail from Porto Bello with all his ships. With these he arrived in few days at the Island of Cuba, where he sought out a place wherein with all quiet and repose he might make the dividend of the spoil they had got. They found in ready money two hundred and fifty thousand pieces of eight,[1] besides all other merchandizes, as cloth, linen, silks, and other goods. With this rich booty they sailed again thence to their common place of rendezvous, Jamaica. Being arrived, they passed here some time in all sorts of vices and debauchery, according to their common manner of doing, spending with huge prodigality what others had gained with no small labour and toil.

[1] The coin "pieces of eight" had the value of eight Spanish reals. Equivalent to 40 cents gold.

PANAMA BAY.

CHAPTER II

MORGAN SETS OUT FOR PANAMA

Capt. Morgan perceived that fortune favored his arms, by giving good success to all his enterprises, which occasioned him, as it is usual in human affairs, to aspire to greater things, trusting she would always be constant to him. Such was the burning of Panama; wherein fortune failed not to assist him, in like manner as she had done before, crowning the event of his actions with victory, howbeit she had led him thereto through thousands of difficulties. The history hereof, I shall now begin to relate, as being so very remarkable in all its circumstances that per-adventure nothing more deserving memory may occur to be read by future ages.

Not long after Capt. Morgan arrived at Jamaica, he found many of his chief officers and soldiers reduced to their former state of indigence through their immoderate vices and

debauchery. Hence they ceased not to importune him for new invasions and exploits, thereby to get something to expend anew in wine, as they had already wasted what was secured so shortly before. Capt. Morgan being willing to follow fortune while she called him, hereupon stopped the mouths of many of the inhabitants of Jamaica, who were creditors to his men of large sums of money, with the hope and promise he gave them of greater achievements than ever, by a new expedition he was going about. This being done, he needed not give himself much trouble to levy men for this or any other enterprise, his name being now so famous through all those islands, that that alone would readily bring him in more men than he could well employ. He undertook therefor to equip a new fleet of ships; for which purpose he assigned the south side of the isle of Tortuga, as a place of rendezvous. With this resolution, he wrote divers letters to all the ancient and expert Pirates there inhabiting, as also to the Governor of said isle, and to the planters and hunters of Hispaniola (Hayti), giving them to understand his intentions, and desiring their appearance at the said place, in case they intended to go with him. All these

people had no sooner understood his designs than they flocked to the place assigned, in huge numbers, with ships, canoes and boats, being desirous to obey his commands. Many, who had not the convenience of coming to him by sea, traversed the woods of Hispaniola, and with no small difficulties arrived there by land. Thus all were present at the place assigned and in readiness, against the 24th day of October, 1670.[1]

Capt. Morgan was not wanting to be there according to his punctual custom, who came in his ship to the same side of the island, to a port called by the French, Port Coullon, over against the island De la Vaca, this being a place which he had assigned to others. Having now gathered the greater part of his fleet, he called a council to deliberate the means of finding provisions sufficient for so many people. Here

[1] Upon the conclusion of a treaty of peace in 1670 between England and Spain, which confirmed the former in her possessions in the West Indies, but forbade her subjects to trade to any Spanish port without a license ; a proclamation was issued in pursuance of such arrangement, which greatly exasperated the freebooting community, and the direct result of which was an assemblage of the largest fleet ever brought together by the buccaneers, amounting to 37 ships of all sizes, manned by more than 2,000 pirates. They met in December, 1670, at Cape Tiburon, Gulf of Uraba, and held a council to decide whether their forces should be directed upon Cartagena, Vera Cruz, or Panama. The last was chosen as being the richest, and Morgan was elected admiral.

they concluded to send four ships and one boat, manned with four hundred men, over to the continent, to the intent they should rifle some country towns and villages, and in these get all the corn or maize they could gather. They set sail for the continent, towards the river, De la Hacha, with design to assault a small village called La Rancheria, where is usually to be found the greatest quantity of maize of all these parts thereabouts. In the meanwhile Capt. Morgan sent another party of his men to hunt in the woods, who killed there a huge number of beasts, and salted them. The rest of his companions remained in the ships, to clean, fit and rig them out to sea, so that at the return of those who were sent abroad, all things might be in readiness to weight anchor, and follow the course of their designs.

The four ships above mentioned, after they had set sail from Hispaniola, steered their course till they came within sight of the river, De la Hacha, where they were suddenly overtaken with a tedious calm. Being thus within sight of land becalmed for some days, the Spaniards inhabiting along the coast, who had perceived them to be enemies, had sufficient time to prepare themselves for the assault, at

least to hide the best part of their goods, to the end that, without any care of preserving them, they might be in readiness to retire, when they found themselves unable to resist the force of the Pirates, by whose frequent attempts upon those coasts they had already learnt what they had to do, in such cases. There was in the river at that present a good ship, which was come from Cartagena to lade maize, and was now when the Pirates came almost ready to depart. The men belonging to this ship endeavoured to escape, but not being able to do it, both they and the vessel fell into their hands. This was a fit booty for their mind, as being good part of what they came to seek for with so much care and toil.

The next morning about the break of day they came with their ships toward the shore, and landed their men, although the Spaniards made huge resistance from a battery which they had raised on that side, where of necessity they had to land, but notwithstanding what defence they could make, they were forced to retire towards a village, to which the Pirates followed them. Here the Spainiards, rallying again, fell upon them with great fury, and maintained a strong combat, which lasted till night

was come; but then, perceiving they had lost a great number of men, which was no smaller on the Pirates side, they retired to places more occult in the woods.

The next day when the Pirates saw they were all fled, and the town totally empty of people, they pursued them as far as they could possibly. In this pursuit they overtook a party of Spaniards, whom they made all prisoners and exercised the most cruel torments, to discover where they had hidden their goods; some were found who by the force of intolerable torture confessed, but others who would not do the same were used more barbarously than the former. Thus, in the space of fifteen days that they remained there, they took many prisoners, much plate and movable goods, with all other things they could rob, with which booty they resolved to return to Hispaniola. Yet not content with what they had already got, they dispatched some prisoners into the woods to seek for the rest of the inhabitants, and to demand of them a ransom for not burning the town. To this they answered, they had no money or plate, but in case they would be satisfied with a certain quantity of maize, they would give as much as they could afford. The Pirates accepted

this proffer, as being more useful to them at that occasion than ready money, and agreed they should pay four hundred hanegs, or bushels of maize. These were brought in three days after, the Spaniards being desirous to rid themselves as soon as possible of that inhuman sort of people. Having laded them on board their ships, together with all the rest of their booty, they returned to the Island of Hispaniole, to give account to their leader, Capt. Morgan, of all they had performed.

They had now been absent five entire weeks, about the commission aforementioned, which long delay occasioned Capt. Morgan almost to despair of their return, fearing lest they had fallen into the hands of the Spaniards, especially considering that the place whereto they went could easily be relieved from Cartagena and Santa Marta, if the inhabitants were at all careful to alarm the country; on the other side he feared lest they should have made some great fortune in that voyage, and with it escaped to some other place. But at last seeing his ships return, and in greater number than they had departed, he resumed new courage, this sight causing both in him and his companions infinite joy. This was much increased

when, being arrived they found them full laden with maize, whereof they stood in great need for the maintenance of so many people, by whose help they expected great matters through the conduct of their commander.

After Capt. Morgan had divided the said maize, as also the flesh which the hunters brought in, among all the ships, according to the number of men that were in every vessel, he concluded upon the departure, having viewed beforehand every ship, and observed their being well equipped and clean. Thus he set sail, and directed his course towards Cape Tiburon, where he determined to take his measures and resolution of what enterprise he should take in hand. No sooner were they arrived there than they met with some other ships that came newly to join them from Jamaica. So that now the whole fleet consisted of thirty-seven ships, wherein were two thousand fighting men besides mariners and boys; the Admiral hereof was mounted with twenty-two great guns, and six small ones, of brass, the rest carried some twenty, some sixteen, some eighteen, and the smallest vessel at least four, besides which they had great quantity of ammunition and fireballs, with other inventions of powder.

Capt. Morgan finding himself with such a great number of ships, divided the whole fleet into two squadrons, constituting a Vice-Admiral, and other officers and commanders of the second squadron, distinct from the former. To every one of these he gave letters patent, or commissions, to act all manner of hostility against the Spanish nation, and take of them what ships they could, either abroad at sea, or in the harbours, in like manner as if they were open and declared enemies (as he termed it) of the King of England, his pretended master. This being done, he called all his captains and other officers together, and caused them to sign some articles of common agreement between them, and in the name of all. Herein it was stipulated that he should have the hundredth part of all that was gotten, to himself alone, that every captain should draw the shares of eight men, for the expenses of his ship, besides his own: That the surgeon, besides his ordinary pay should have two hundred pieces of eight, for his chest of medicaments: And every carpenter, above his common salary, should draw one hundred pieces of eight. As to recompences, they were regulated in this voyage much more than usual. Thus, for the loss of both legs,

they assigned one thousand five hundred pieces of eight or fifteen slaves; for one leg, whether the right or left, six hundred pieces of eight or six slaves, for a hand as much as for a leg, and for the loss of an eye, one hundred pieces of eight or one slave. Lastly, unto him that in any battle should signalize himself, either by entering the first any castle, or taking down the Spanish colours and setting up the English, they constituted fifty pieces of eight for a reward. In the head of these articles it was stipulated that all these extraordinary salaries, recompences and rewards should be paid out of the first spoil or purchase they should take, according as every one should then occur to be either rewarded or paid.

This contract being signed, Capt. Morgan commanded his vice-Admirals and Captains to put all things in order, to go and attempt one of three places, either Cartagena, Panama or Vera Cruz; but the lot fell upon Panama as being believed to be the richest of all three; notwithstanding this city being situated at such distance from the Northern sea, as they knew not well the avenues and entries necessary to approach it, they judged it necessary to go

beforehand to the isle of St. Catherine,[1] there to find and provide themselves with some persons who might serve them for guides in the enterprize; for in the garrison of that island are commonly employed many banditti and outlaws belonging to Panama and the neighboring places, who are very expert in the knowledge of all that country. But before they proceeded any farther, they caused an act to be published through the whole fleet, containing that in case they met with any Spanish vessel, the first captain who with his men should enter and take the said ship, should have for his reward the tenth part of whatsoever should be found within her.

Capt. Morgan and his companions weighed anchor from the Cape of Tiburon, the 16th day of December in the year 1670. Four days after they arrived within sight of the Isle of St. Catherine which was not in possession of the Spaniards again, and to which they commonly banished the malefactors of the Spanish dominions in the West Indies. In this island are found huge quantities of pigeons at certain seasons of the year; it is watered continually by four rivulets or brooks, whereof two are always

[1] Also known as Santa Katalina or Old Providence, an island in the Caribbean Sea, 100 miles from the Mosquito Coast, now belonging to Venezuela.

dry in the summer season. Here is no manner of trade nor commerce exercised by the inhabitants, neither do they give themselves the trouble to plant fruits than what is necessary for the sustentation of human life; howbeit, the country would be sufficient to make very good plantations of tobacco, which might render considerable profit were it cultivated for that use.

As soon as Capt. Morgan came near the island with his fleet, he sent before one of his best sailing vessels to view the entry of the river and see if any other ships were there who might hinder him from landing, as also fearing lest they should give intelligence of his arrival to the inhabitants of the island, and they by this means prevent his designs.

The next day before sunrise, all the fleet came to anchor near the island, in a certain bay called Aguada Grande, upon this bay the Spainiards had lately built a battery, mounted with four pieces of cannon. Captain Morgan, mounted with a thousand, more or less, and disposed them into squadrons, beginning his march through the woods, although they had no other guide than some few of his own men who had been there before when Mansvelt took and

ransacked the island. The same day they came to a certain place where the Governor at other times kept his ordinary residence; here they found a battery called The Platform, but nobody in it; the Spaniards retired to the lesser island, which, as was said before, is so near the great one that a short bridge only may conjoin them.

The lesser island aforesaid was so well fortified with forts and batteries around it as might seem impregnable. Hereupon, as soon as the Spaniards perceived the pirates to approach, they began to fire upon them so furiously that they could advance nothing that day, but were contented to retreat a little, and take up their rest upon the grass in the open fields, which afforded no strange beds to these people, as being sufficiently used to such kind of repose, what most afflicted them was hunger, having not eaten the least thing that whole day. About midnight it began to rain so hard that those miserable people had much ado to resist so much hardship, the greatest part of them having no other clothes than a pair of seaman's trousers or breeches, and a shirt, without either shoes or stockings. Thus finding themselves in great extremity, they began to pull down a few

thatched houses to make fires withal; in a word, they were in such condition that one hundred men, indifferently well armed, might easily that night have torn them all to pieces. The next morning about break of day the rain ceased, at which time they began to dry their arms, which were entirely wet, and proceed on their march. But not long after, the rain commenced anew, rather harder than before, as if the skies were melted into waters, which caused them to cease from advancing towards the forts, whence the Spaniards continually fired at the Pirates, seeing them to approach.

The Pirates were now reduced to great affliction and danger of their lives through the hardness of the weather, their own nakedness and the great hunger they sustained. For a small relief hereof, they happened to find in the fields an old horse, which was both lean and full of scabs and blotches, with galled back and sides. This horrid animal they instantly killed and flayed, and divided into small pieces among themselves as far as it would reach, for many could not obtain one morsel, which they roasted and devoured without either salt or bread, more like ravenous wolves than men.

The rain as yet ceased not to fall, and Capt.

Morgan perceived their minds to relent, hearing many of them say they would return on board the ships. Amongst these fatigued both of mind and body, he thought it convenient to use some sudden and almost unexpected remedy; to this effect he commanded a canoe to be rigged in all haste, and the colours of truce to be hanged out of it. This canoe he sent to the Spanish governor of the island with this message: That if within a few hours he delivered not himself and all his men into his hands, he did by that messenger swear to him, and all those that were in his company; he would most certainly put them all to the sword, without granting quarter to any.

After noon the canoe returned with his answer: That the Governor desired two hours time to deliberate with his officers in a full council about that affair; which being past, he would give his positive answer to the message.

The time now being elapsed, the said Governor sent two canoes with white colors, and two persons, to treat with Capt. Morgan, but before they landed, they demanded of the Pirates two persons as hostages of their security. These were readily granted by Capt. Morgan, who delivered to them two of his captains, for

a mutual pledge of the security required. With this the Spaniards propounded to Capt. Morgan that their Governor in a full assembly had resolved to deliver up the island, not being provided with sufficient men to defend it against such an armada of fleet. But withal he desired that Captain Morgan would be pleased to use a certain stratagem of war, for the better saving of his own credit, and the reputation of his officers both abroad and at home, which should be as follows: That Capt. Morgan would come with his troops by night, near the bridge that joined the lesser island to the great one, and there attack the fort of St. Jerome, that at the same time all the ships of his fleet would draw near the castle of Santa Teresa, and attack it by sea, landing in the meanwhile some more troops, near the battery called St. Matthew; that these troops which were newly landed should by this means intercept the Governor by the way, as he endeavoured to pass to St. Jerome's fort, and then take him prisoner, using the formality, as if they forced him to deliver the said castle; and that he would deliver the English into it, under the fraud of being his own troops; that on one side, and the other there should be continual firing to one

another, but without bullets, or at least into the air, so that no side might receive any harm by this device; that thus having obtained two such forts, the chief of the isle, he need not care for the rest, which of necessity must fall by course into his hands.

These propositions, every one, were granted by Capt. Morgan, upon conditions they should see them faithfully observed, for otherwise they should be used with all rigour imaginable; this they promised to do, and hereupon took their leave, and returned to give account of their negotiations to the Governor. Presently after, Capt. Morgan commanded the whole fleet to enter the port, and his men to be in readiness to assault that night the Castle of St. Jerome. Thus the false alarm of battle began with incessant firing of great guns from both the castles against the ships, but without bullets, as was said before. Then the Pirates landed, and assaulted by night the lesser island, which they took, as also possession of both the fortresses, forcing all the Spainiards, in appearance, to fly to the church. Before the assault, Capt. Morgan had sent word to the Governor he should keep all his men together in a body, otherwise if the Pirates met any straggling

Spaniards in the street, they should certainly shoot them.

The island being taken by this unusual stratagem, and all things put in order, the Pirates began to make a new war against the poultry and all sort of victuals they could find. This was their whole employ for some days, scarce thinking of anything else than to kill those animals, roast and eat them, and make good cheer, as much as they could possibly attain unto. If wood was wanting, they presently fell upon the houses, and pulling them down, made fires with the timber, as had been done before in the field. The next day they numbered all the prisoners they had taken upon the whole island, which were found to be in all four hundred and fifty persons, between men women and children, viz one hundred and ninety soldiers belonging to the garrison, forty inhabitants who were married, forty-three children, thirty-four slaves belonging to the King, with eight children; eight banditti; thirty-nine negroes belonging to private persons, with twenty-seven female blacks, and thirty-four children. The Pirates disarmed all the Spaniards, and sent them out immediately to the plantations, to seek for provisions, leaving the

women in the church, there to exercise their devotions.

Soon after they took a review of the whole island, and all the fortresses belonging thereunto, which they found to be nine in all, as follows: the fort of St. Jerome, nearest to the bridge, had eight great guns of 12, 6 and 8 pound carriage, together with six pipes of muskets, every pipe containing ten muskets. Here they found still sixty muskets, with sufficient quantity of powder and all other sorts of ammunition. The second fortress, called St. Matthew, had three guns, of 8 pound carriage each. The third and chief among all the rest, named Santa Teresa, had twenty great guns, of 18, 12, 8 and 6 pound carriage, with ten pipes of muskets, like those we said before, and ninety muskets remaining, besides all other warlike ammunition. This castle was built with stone and mortar, with very thick walls on all sides, and a large ditch around about it of twenty foot depth, which although it was dry was very hard to get over. Here was no entry but through one door, which corresponded to the middle of the castle. Within it was a mount, or hill inaccessible, with four pieces of cannon at the top, whence they could shoot directly

into the port. On the sea side this castle was impregnable, by reason of the rocks which surrounded it and the sea beating furiously upon them. In like manner, on the side of the land, it was so commodiously seated on a mountain that there was no access to it, but by a path of three or four foot broad. The fourth fortress was named St. Augustine, having three guns of 8 and 6 pound carriage. The fifth, named La Plattaforma de la Concepcion, had only two guns, of eight pound carriage. The sixth, by name San Salvador, had likewise no more than two guns. The seventh, being called Plattaforma de los Artilleros, had also two guns. The eighth, called Santa Cruz, had three guns. The ninth, which was called St. Joseph's Fort, had six guns of 12 and 8 pound carriage, besides two pipes of muskets and sufficient ammunition.

In the storehouse, were found thirty thousand pounds of powder, with all sorts of ammunition, which were transported by the Pirates on board the ships. All the guns were stopped and nailed, and the fortresses demolished, excepting that of St. Jerome, where the Pirates kept their guard and residence.

Capt. Morgan enquired if any banditti were

there from Panama or Porto Bello, and hereupon three were brought before him, who pretended to be very expert in all the avenues of those parts. He asked them if they would be his guides, and show him the securest ways and passages to Panama, which, if they performed, he promised them equal shares in all they should pillage and rob in that exposition, and that afterwards he would set them at liberty, by transporting them to Jamaica. These propositions pleased the Banditti very well, and they readily accepted his proffers, promising to serve him very faithfully in all he should desire, especially one of these three, who was the greatest rogue, thief and assassin among them, and who had deserved for his crimes rather to be broken alive upon the wheel than punished with serving in a garrison. This wicked fellow had a great ascendancy over the other two banditti, and could domineer and command over them as he pleased, they not daring to refuse obedience to his orders.