CHAPTER I.

FIRST EXPLORATIONS OF THE ISTHMUS.

The ancient idea of a canal.—Galvão, Galistro, and Humboldt.—Nicaragua asks the United States in 1825 to build a canal.—Lloyd's concession from New Granada.—The King of the Netherlands tries his hand in 1829.—President Jackson and Biddle.—The Solomon concession: Garella's surveys in Panama.—Castellon and Louis Napoleon.—California and the canal.—Hughes and Barnard's explorations for a railway.—The Panama Railway.—Vanderbilt-White's concession.—Col. Childs' survey of the Nicaragua route.—Description of Kelley's munificent explorations.—Dr Cullen's scheme in Darien.—Gisborne.—Strain's expedition.—Great interval of quiet.—Gogorza's old maps. the Atrato route.

The idea of piercing the isthmus between the two Americas is almost contemporaneous with the first knowledge of the isthmus itself. The early navigators could not help noticing how near to each other were the two oceans, and how comparatively easy would be (they thought) the cutting of a canal through that narrow strip of land between them. The celebrated Portuguese navigator, Antonio Galvão, as early as 1550, wrote an essay on the subject, wherein he suggested four different lines, one of which was through the Lake of Nicaragua and the other by the Isthmus of Panama. Lopes Gomara, the Spanish historian, mentions in 1551 the four routes, of which he very likely learned from the monograph of Galvão.

The idea, however, remained dormant for fully two centuries. One of the earliest exploits of Nelson was

the attack on Port San Juan in 1779, with the ulterior purpose, it appears, of controlling the river and lake communications between the two oceans, of which the fort was supposed to be the best *debouché;* fever, however, decimated his crew, and he returned to England. In the meantime, Charles III. of Spain sent out the really first exploring expedition under Manuel Galistro, in 1780; but the subsequent political complications in European politics diverted attention from the project. In the beginning of our century, Humboldt, who studied on the spot the problem of piercing the isthmus, strongly indorsed its feasibility, but all Europe was then, and remained for many years afterwards, engaged in a great and general political reorganization. Most of the Spanish colonies in America threw off the yoke of the mother country between 1820 and 1825, and although the first survey of any part of the isthmus did not really take place until twenty years later, the well-known configuration of the isthmus strengthened the belief in the possibility of opening a canal, and the question was now and then ventilated. It is to the great credit of the Spanish Central-American republics that, as soon as they had secured their independence, they devoted themselves to the problem of procuring aid to forward the idea interoceanic communication. In 1823, Lacerda, afterwards governor of Nicaragua, called the attention of the Legislature of the republic to the subject. Two years later we find the Minister of the republic in Washington addressing a note to the Secretary of State, Mr. Clay, urging the United States to co-operate for the construction of a canal, which, he says, should have been built long before. That proposal, dated February 8, 1825, really invited the United States to conclude a treaty for a canal, so as to perpetually secure the posses-

sion of it to the two nations." At that time no sufficient data had been brought to light to warrant Mr. Clay in committing the United States to a policy which otherwise would have been entirely acceptable to President Adams and to the American people. Mr. Clay appointed a new Minister to Central America, and instructed him to further investigate the matter. In 1826 the Mexican Government ordered a survey of the Tehuantepec to be made by General Orbegozo, who, however, only made a casual examination.

In 1828, Bolivar, President of the republic of New Granada, gave to John A. Lloyd and to Falcmar a commission for a reconnaissance, with the immediate object of a roadway between the two oceans. They found the mean height of the Pacific at Panama to be 3·52 feet above that of the Atlantic at the Chagres mouth, and that at low water both oceans are the same quantities below their respective mean levels; and as to interoceanic communication, they seemed to favour the isthmus at its narrowest region, just where there is a depression in the great range of mountains.

One year after the return of Lloyd, the King of the Netherlands, as patron of a private association, arranged with Central America for cutting a canal, "to be opened on same terms to all nations." But the political troubles between Belgium and Holland caused the scheme to miscarry.

For five years no effort was made that was deserving of consideration, until the United States Government despatched Charles Biddle to the isthmus as an agent to investigate what plans, surveys, estimates, &c., had been made, and to report on the expediency of opening negociations with the Central American Government for the building of a canal. Biddle died soon after

arriving at the isthmus, but not before he had obtained for himself from Columbia a concession to build a railway across the isthmus of Panama, which act President Jackson disapproved of in strong terms.

About a year afterward the President of Central America, General Morazin, ordered a reconnaissance of the Rio San Juan route by John Bailey, an Englishman.

In 1838, New Granada, anxious to take the lead of Nicaragua, listened to the propositions of the French house of Solomon and Co., and granted it a concession to build a canal by a supposed newly discovered route, where no locks would be required. Six years later on, Louis Philippe commissioned Napoléon Garella to verify the surprising reports of Solomon's agents. Garella's investigations were perhaps the most serious that had been undertaken until that time. They constitute at least the first semblance of a regular survey. He disproved the reports submitted to him, but came to the conclusion that a canal was possible between Porto Bello and Panama, with thirty-five locks and a tunnel, 5,350 metres in extent, at an elevation of 99 metres, and about 135 feet above high water of the Pacific. The scheme, however, came to nothing.

In the same year Nicaragua gave a concession to a Belgian company, the negotiation being carried on by the Nicaraguan Minister in Paris, Castellon, but it also came to nothing. On the other hand, Marcoleta, two years later on, left Brussels, where he represented his Government, and went to Paris and London in order to arrange for a concession to Prince Louis Napoléon Bonaparte, then a prisoner in Ham.

It is apparent that none of these schemes was ever supported by any powerful agency, or with steadiness

enough to be carried through. There was always a doubt about the possibility of the work, or a doubt that it might never be possible to obtain money enough to push it to a successful conclusion. On the other hand, advantageous as it was evident the canal would be to the whole world, the shipping trade that would seek it did not appear to be extensive enough to remunerate the capital that would be required. But at last the world found a powerful incentive to give close attention to the commercial and political importance of the canal. The acquisition of California by the United States, and the discovery of gold in its territory, marks a new era in the history of the attempts to make serious studies of the isthmus with a view to establishing a continuous water communication between the two oceans. The problem, too, now became one of actual live political interest to the Americans, and the period between 1848 and 1861 was full of interest to them on account of the political discussion with Great Britain as to the preponderating influence in Central America and the occupation of the isthmus by either Government. But as we shall have to deal with these political questions in separate chapters, we will for the present content ourselves with showing the several efforts to survey and build a canal as an industrial enterprise.

While that problem was not settled, the Americans, anxious for means of communication, if not by water, then by an overland route, obtained from New Grenada a concession for a railway; and for that purpose they formed a company in 1849, and entrusted the surveys to Colonel Hughes and to J. C. Trautwine. The United States Government soon after sent General Barnard, of the corps of Engineers, to survey the Isthmus of Tehuantepec, also with a view to building a railway. Barnard found the route impracticable, while Hughes and Trautwine

succeeded much better in Panama, and designed a road of the total length of 47¾ miles, of which about half was to be level. The road was built between 1850 and 1855 by the engineers Totten and Trautwine.

In the meantime the idea of a canal was not to be given up. The United States Minister in Nicaragua, Elijah Hise, concluded at the same time (1849) with that Government a treaty for establishing "a passage and communication between the Caribbean Sea and the Pacific Ocean, to facilitate the commerce between the two oceans, and to produce other great results." Owing to its several provisions of a political nature, the authorities at Washington did not approve that scheme, known thenceforth as the "Hise-Selva convention." But the country received the arrangement with every mark of approval, and a company was at once organized by Cornelius Vanderbilt, Joseph L. White, and others, under the style of "American, Atlantic, and Pacific Ship Canal Company," which obtained from Nicaragua the right to build the proposed canal. That was, we repeat, in 1849, when the English were trying hard to get a firm hold on what was supposed to be the future termini of the canal, while the Americans were protesting against that occupation, and had themselves repudiated the treaty concluded by their Minister in Honduras, Squier, for the cession by the latter country to the United States of the Tigre Island, in the Fonseca Bay. It was from these conflicting interests that the Clayton-Bulwer treaty of 1850 originated.

However, the "American, Atlantic, and Pacific" was organized by strong men, who proposed to survey the route thoroughly, and then appeal for money, both in America and England. On March 9, 1850, Norberto Ramirez, "supreme director" of Nicaragua, confirmed the company's grant, and the company commissioned

Colonel O. W. Childs to make the necessary studies. He made reconnaissances of several of the proposed routes, and after a careful work, in which he was aided by J. D. Fay and S. H. Sweet, he came to the conclusion that "the line leading from the mouth of the Rio Lajas to the Pacific, at Brito, presented more favourable conditions for the construction of a canal than any other." His survey is said to have been the first in the isthmus that conformed itself to the requirements of true engineering. Child's report was submitted to Colonels Turnbull and Abert, of the United States Topographical Engineers, who confirmed its accuracy, and then, at the request of the United States Government, it was revised by two English authorities, Col. Aldrich, of the Royal Engineers, and Mr. James Walker, C.E., who, on July 16, 1852, confirmed its conclusions.

The "Atlantic and Pacific" Company, however, did not succeed in raising the money. Walker's expedition to Nicaragua, fomented mainly by the slave power, but emphatically disowned by the Washington authorities, caused the Nicaraguan Government to become very suspicious of the United States, and in 1856 the company's grant was declared null and void. Thanks, however, to the ability of the Secretary of State, Lewis Cass, a convention, known as the "Cass-Yrisarri convention," was negotiated in Washington on November 16, 1857, making mutual arrangements with respect to a communication from ocean to ocean through Nicaragua.

Let us now see what was going on in other parts of the isthmus in the fourteen years between 1850 and 1864.

A rich New York merchant, Mr. Frederick M. Kelley, impressed with the belief that Humboldt must have been

right as regards the feasibility of a canal through Darien, sent in 1851 J. C. Trautwine, a prominent civil engineer, who had been associated with Col. Childs, and until his death was more or less connected with the isthmus explorations, to make a reconnaissance of the head-waters of the Atrato, of the Gulf of Darien, and of the mythical Raspadura Canal, through which the Indians were said to cross from ocean to ocean. Although the result of this expedition was by no means encouraging, Mr. Kelley organized two others in 1853 to go over the same ground, which, however, did not discover anything that had not already been brought forward by Trautwine.

Mr. Kelley then tried the head-waters of the Atrato, and thence in the direction of the Truando, sending out two parties, in 1853 and 1854, the latter under Captain Kennish. Later on he came to Europe to submit his plans, surveys, &c., to the English and French *savants*, and he was everywhere received with the greatest marks of regard.

On his return to America, having been unable to accomplish anything in Europe, President Buchanan, who while Minister in England had taken an interest in Mr. Kelley's enthusiastic labours, procured the passage by Congress of a Bill authorizing the President to appoint army and naval officers to verify the survey already made for a ship-canal. Agreeably to the Act of the Legislature, the President appointed Lieutenant N. Michler, of the army, and Lieutenant T. A. Craven, of the navy, to verify the survey of Captain Kennish. Those officers made separate reports. Michler was of opinion that the construction of a canal presented many difficulties, that the cost was incalculable, and that the effects of a deadly climate on the labourers must be taken into account. But he thought that the scheme was possible, especially

if Kennish's route were abandoned, and another one, which he now proposed, were taken up instead—viz., that which follows up the course of the Truando, except when this river bends to the north, when the route ought to follow a straight line to the Atrato, 22 miles above the village of Sucio. The route would then strike the range of mountains, which it would cross by means of a tunnel 12,250 feet in length, following down in the Pacific slope the course of the Paracuchichi. Michler estimated the cost of this canal—75 miles long, including the tunnel, 100 feet high above water—to be $135,000,000, or £27,000,000, which was twice as much as had been estimated in America, according to the data of Kennish himself. Mr. Kennish was not satisfied that it would be safe to persist in that Truando-Atrato route, at least for the moment.

That public-spirited American then turned his attention to the possibility of a sea-level canal, even if a great tunnel became necessary. He first asked General Totten, of the Panama Railway, to let him have his views as to that route being available. Totten reported that the Chagres river could not be controlled, and would break up the canal, and, besides, ten or twelve locks would have to be made. Mr. Kelley directed his efforts to the San Blas route, in that part of the isthmus which is the narrowest, between the Gulf of San Blas, on the Atlantic, and the mouth of the Bagano, on the Pacific. Two expeditions were sent out, composed of Rude, Sweet, McDougal, and others, in 1863 and 1864, and they were nearly successful, but could not finish their labours on account of the interference of the Indians. Altogether Mr. Kelley had spent from his private resources about £25,000. in this laudable purpose. Everywhere in the world where there was a congress of gentlemen to confer

about the several routes it would seem that Frederick M. Kelley, of New York, should have been listened to, if not with admiration and affection, at least with respect. And yet at the Paris "International Scientific Congress" of 1879, when an American delegate asked the committee on the selection of a route to give a hearing to the project of Mr. Kelley, from San Blas to Panama by the Bayano river, which was seconded by Sir John Stokes, who added that what was known of that route justified a hope that the project might deal advantageously with some of the difficulties, there was a great deal of opposition to the proposal to hear Mr. Kelley. M. Simonin, known for his extremely superficial and not altogether reliable articles on the United States in *La France* and *Revue des Deux Mondes*, exclaimed—"We are not here to register these schemes. Do they propose that we shall set about and examine everything that the Americans have been doing for the last ten years? We should lose our time. We have to discuss only the projects of MM. Wyse and Reclus, Blanchet and Menocal, and others." M. Simonin might as well have eliminated the two latter names. He and his friends did not want to hear but of the Wyse-Reclus project, and in their cynical effrontery they even snubbed a man like Kelley!

Leaving now the Darien aside, let us see what was going on in the isthmus in these same fourteen years, from 1850 to 1864, apart from the work in Nicaragua and the labours of Mr. Kelley.

Dr. Edward Cullen, a Dublin physician, interested himself very much in the project of a ship-canal between the Gulf of San Miguel and Caledonia Bay, and in 1852, after calling Lord Palmerston's attention to his scheme, he interested in it the contractors Fox, Henderson, and Brassey, of London, and obtained for them and himself

a concession from Columbia for such a canal. The contractors dispatched Lionel Gisborne, C.E., to make an exploration. He reported favourably, but his report is full of errors, due to the superficial character of his examination, the result of which is published in his book, "The Isthmus of Darien in 1852." At any rate, his endorsement of the Caledonia route attracted wide interest in the subject, and in the United States, President Pierce in 1853 authorised the Secretary of the Navy to commission Lieutenant Isaac C. Strain, who was not a new explorer of Central and South America, to go over the proposed route and report upon its feasibility for a "ship-canal on the grandest scale," also "avoiding all infractions of international law." Lieutenant Strain reached Caledonia Bay from United States in January 1854, and, with twenty-seven men, started for the interior of Darien. This expedition became one of the most important in the history of the isthmus. British capital was ready to be invested in the Cullen scheme, but Strain was to give the last word. He soon discovered that Gisborne's report was altogether unreliable. Strain was confronted by mountains 3,500 feet in height instead of only 150 feet. His party could not help taking different routes, climbing steep hills and meeting roaring rivers. Strain himself was lost sight of, and searching parties were organized, one of them by Gisborne himself. The history of the terrible privations and sufferings undergone by Strain and some of his men, from hunger and thirst, and the enforced abandonment of one of their companions, who though still alive was too weak to follow them, and the death of others, is one of the most stirring narratives in the annals of the difficult explorations of the world. When Strain was found he said that its failure was in itself a great success, for it gave a death-blow to the

Cullen scheme, thereby preventing great sacrifice of life and money.

In 1856, as we have already said, Nicaragua annulled the concession to the "Atlantic and Pacific," and a year afterwards the United States Government ordered the Michler and Craven surveys in the Darien. Except Mr. Kelley's expeditions, nothing was undertaken by the United States Government or its citizens from 1857 until 1869. In 1857 the political agitation in the United States was already assuming the most serious character, which revealed itself in the breaking out of the civil war a few years later on; and even after the conclusion of the internecine strife the public mind was too much preoccupied with the reorganization of the Union, with 4,500,000 newly made citizens, to give any attention to the subject of interoceanic communication. During the war the necessity for it became apparent, and the Pacific Railway Bills were carried, but beyond that nothing was done, and, considering the position assumed towards Congress by Andrew Johnson, who substituted the murdered President Lincoln, nothing could have been done by the Government at that time. In 1860 Daniel Ammen, then lieutenant in the U.S. Navy, impressed by the result of Strain's reconnaissance, addressed a communication to the New York Geographical Society, suggesting to it to send out an expedition, and giving in detail the task that should be entrusted to it. After the war, Daniel Ammen, who had been promoted to the rank of captain, had frequent occasions to discuss the matter with prominent officers of the Government, and he interested General Grant very much respecting the necessity for further surveys. We shall hereafter show how Captain Ammen's labours opened up a new era in the history of explorations on the isthmus.

Up to the end of the civil war the only semblance of a regular survey in the isthmus made by a Frenchman was that of Garella, already referred to. In 1861 M. de Puydt examined the Tuyra (Darien) and several of its tributaries, and in 1864 he returned to make a reconnaissance of the Gulf of Darien by the Tanela River. His data are, however, altogether unreliable.

In 1865 Señor Gogorza discovered some old maps, and induced some capitalists in Paris to fit out an expedition, under M. Lacharme, to study a passage by the River Panusa, a confluent of the Tuyra; while in the field Lacharme abandoned the proposed route and followed the course of the Paya up to the watershed, and then that of the Cacarica to the Atrato, whence he came back, satisfied at the possibility of a canal, 50 miles long with the summit, near the village of Paya, only 190 feet above the sea-level.

Beyond that nothing else was ever done in the isthmus by Frenchmen until the Wyse-Reclus expeditions, which we shall discuss separately hereafter; but as they were preceded by the several United States explorations, we shall first have to give an account of the interest of the United States in this matter.