

Balboa to Goethals: History of the Panama Canal

From the inception of the realization that America was America, rather the Americas, a great new continent instead of a new-found shore of Asia, the notion of effecting inter-oceanic communication across some narrower portion of the new lands took hold of men's minds and commanded the attention of monarchs and their councils thereafter during hundreds of years. The Spanish conceived project after project, during the 16th, 17th and 18th centuries. On the other hand, William Paterson, the man principally identified with the founding of the Bank of England, secured parliamentary action and all but established an overland route across Darien, at the close of the 17th century. This was, of course, an act of the Scottish parliament, chartering the "Company of Scotland, Trading to Africa and the Indies," which was popularly known as the Darien Company.

This information and all that follows is from *The Pacific Ocean in History*, a volume of the papers read at the meeting of the American Historical Society in San Francisco in 1915, at the Panama-Pacific exposition celebrating the opening of the Panama canal, and the data are chiefly from the excellent historical review contributed to that occasion by Dr. Rudolph J. Tausig, of Harvard. Paterson was a man of such initiative and vision, attuned to practical enterprises, as would be expected to be met with in a founder of the Bank of England. He planned a British colony on the Atlantic side, another on the Pacific, with the overland route for goods and passengers maintained between them. In other words, he visioned in 1698 what America put into execution in the 1850's, under the exigency of the traffic to California.

He assured the British commercial world that the time and expense of navigation to and from the Far East would be cut in two by his project,

and trade doubled: "Trade will increase trade, and money will beget money, and the trading world shall need no more to want work for their hands, but will rather want hands for their work. Thus this door of the seas, and the key to the universe, with anything of a sort of reasonable management, will of course enable its proprietors to give laws to both oceans and to become the arbiters of the commercial world, without being liable to the fatigues, expenses and dangers, or contracting the guilt and blood, of Alexander and Caesar."

Preoccupation with wars was, no doubt, the reason why Britain never carried Paterson's project at Panama into effect. She intrigued, but nothing more.

Alexander von Humboldt listed nine several projects for uniting the oceans at Panama or along routes north and south of the isthmus, in his *Political Essay on the Kingdom of New Spain*. This caught the imagination of the German poet Goethe, who, predicting that with the development of the United States "new trading centers will spring up in the safe and roomy harbors on the Pacific coast (this in 1827), for developing commercial relations with China and the East Indies," said it would not only be desirable then, but also necessary, "that both merchant vessels and men of war should have a quicker connection between the Atlantic and the Pacific than is possible by a voyage around Cape Horn. I therefore repeat that it is absolutely necessary for the United States to build the interoceanic canal and I am sure that she will do so. . . . It would be worth while to bear life for fifty years longer for this purpose," that of seeing the canal undertaken and accomplished by the United States.

Either this demonstrates that there is some practical sense in some poets, or that in men of

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practical affairs there is some poetry.

When the Latin colonies in America created themselves into republics, in the first quarter of the 19th century, "they turned their attention to the construction of an interoceanic canal." Bolivar gathered a congress at Panama in 1826, where America sent commissioners, bearing this instruction from Henry Clay, secretary of state: "The benefits (of a canal) ought not to be exclusively appropriated to any one nation, but should be extended to all parts of the globe upon the payment of a just compensation or reasonable tolls."

The commissioners reached Panama after the congress, which never reassembled, had adjourned.

A senate resolution of 1835 authorized negotiations on the basis of Clay's principle, and a similar house resolution of 1839 is the first official suggestion that the canal be built by the United States.

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Maj. Gen. George W. Goethals.

1858-1928
Builder, Panama Canal

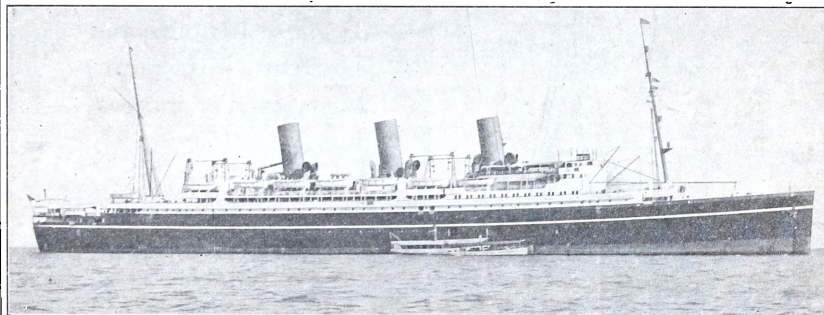
When Goethals took charge of the building of the canal appears elsewhere. He was born in Brooklyn, June 29, 1858, and is a shining example of the city chap who succeeds. First attending the College of the City of New York, he was graduated from West Point in 1880. He was, as a volunteer officer, chief of engineers, Spanish-American War, 1898, and was made a major in the engineering corps, U.S.A., 1900, rising by merit to his major-generalship, 1915. He was instructor in civil and military engineering at West Point after graduation until 1888, and then took charge of the Muscle Shoals canal construction on the Tennessee river. This prepared him for the Panama job, but in manifold other duties he proved his exceptional ability and personal initiative. He received the thanks of Congress "for distinguished service in constructing the Panama canal," and was made a D. S. J. man for "meritorious and conspicuous service" in reorganizing the quartermaster department during the Great War. He died three weeks ago, one of the greatest men of his age.

dictorily interpreted, and mutually vexatious." In such an instrument there was traced a joint and several jurisdiction and opportunity, of England and the United States, respecting canal projects; the United States had been impelled to such an agreement—infringing, as was pointed out by critics at the time, the Monroe doctrine—by England's establishment of a protectorate over the territory at the mouth of the San Juan river.

The treaty was a thorn in America's midriff until abrogated, December 16, 1901, by the Hay-Pauncefote treaty granting the United States the right to construct the canal and "the exclusive right of providing for the regulation and management of the canal." But as late as his message to congress of December 8, 1885, Cleveland had said "whatever highway may be constructed . . . must be for the world's benefit, a trust for mankind, to be removed from chance of domination by any single power, nor become a point of invitation for hostilities or a prize for warlike ambition." But how may Panama, any more than Constantinople, be free from the envy of the world, or the United States, as its custodian—as, indeed, the actual owner and sovereign of the canal and canal zone itself—be free from the necessity of being at all times prepared for its defense? Though he seemed to reiterate the Clayton-Bulwer treaty, still in force, the objective sought by Cleveland, except the United States become a belligerent, is most nearly secured under the terms finally effected.

The rush to California setting in in 1849 could not wait upon diplomats or hydraulic engineers. New York chartered a railroad company in 1850, which completed a line across Panama from ocean to ocean, January 27, 1855, operating under a treaty between the United States and New Granada (of which state Colombia is the residuary legatee). The road cost \$8,000,000, and was profitable. Its trade, however, was only 1/15 with California, and 14/15 arose from commerce between England and the United States, and Central and South America. The treaty of Bogota, December 1846, was the diplomatic fabric, or at least a principal part of it,

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"Emp. Canada"	Apr. 14	Apr. 18	Apr. 21	Apr. 24	Apr. 27	May 6
"Emp. Russia"	May 5	May 9	May 12	May 15	May 18	May 27
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upon which Roosevelt finally rested the canal project. He and Hay utilized it to confound the efforts of Marouin, in his own person the Colombian government in 1902-04, to squeeze the United States.

With the Clayton-Bulwer treaty in view, the United States and England to extend their joint protection, in 1851 Dr. Edward Cullen recommended to Great Britain the construction of the Isthmian Ship Canal, utilizing the Savana river and, a tidewater project, shunting ships into the Atlantic from the Pacific at flood tide, and vice versa at ebb. The usual joint stock company with limited liability was formed, capital \$15,000,000, the estimated cost of the canal being £7,000,000. Subsequent engineering investigations showed Cullen's plans to be unfeasible. He had left a mountain range out of account.

In 1866 the senate called for a navy report on all the canal projects, and Rear Admiral Davis furnished it. The United States also set to work to abrogate the Clayton-Bulwer treaty, Seward saying, as secretary of state, that the prospect of undertaking the building of a canal was imminent when the treaty was made, but that "at present there does not appear to be a likelihood of its being undertaken."

President Grant enunciated the doctrine of "an American canal under American control," and caused thorough surveys to be made of the various projects.

The conference on the subject of an interoceanic canal in Paris in 1879 resulted in the organization of a French construction company under the presidency of the famous builder of the Suez canal, Ferdinand de Lesseps. Again the United States was aroused, everyone concluding, with de Lesseps' name coupled with the business, that it would be speedily terminated, and President Hayes made occasion to say that "the policy of this country is a canal under American control." Garfield, succeeding Hayes, added his word: "It is the right and duty of the United States to assert and maintain such supervision and authority over any interoceanic canal across the isthmus as will protect our national

CHRONOLOGY

Canal treaty with Colombia signed Jan. 22, 1903; ratified by senate March 17, 1903; rejected by Colombia Aug. 17, 1903.
 Revolution in Panama Nov. 3, 1903.
 Canal treaty with Panama negotiated Nov. 18, 1903; ratified by republic of Panama Dec. 2, 1903; ratified by the United States senate Feb. 23, 1904.
 Canal commissioners appointed Feb. 29, 1904. Papers transferring canal to the United States signed in Paris April 22, 1904.
 Bill for government of Canal Zone passed by the senate April 15, 1904; passed by house April 21; approved April 26.
 Canal property at Panama formally turned over to the United States commissioners May 4, 1904.
 Work begun by Americans May 4, 1904.
 President outlines rules for the government of the Canal Zone and war department takes charge of the work on May 9, 1904.
 Gen. George W. Davis appointed first governor of Canal Zone May 9, 1904.
 John F. Wallace appointed chief engineer May 10, 1904; resigned June 29, 1905.
 Republic of Panama paid \$10,000,000 May 21, 1904.
 First payment on \$40,000,000 to French company made May 24, 1904.
 Lorin C. Collins appointed supreme court judge for Canal Zone June 17, 1905.
 New commission with Theodore P. Shonts as chairman named April 3, 1905; Shonts resigned Mar 4, 1907.
 John F. Stevens appointed chief engineer June 29, 1905; resigned Feb. 26, 1907.
 Lieut.-Col. George W. Goethals appointed chief engineer Feb. 26, 1907.
 Gatun dam finished June 14, 1913.
 Dry excavation completed Sept. 10, 1913.
 First vessel lifted through Gatun locks Sept. 26, 1913.
 Gamboa dike blown up Oct. 10, 1913.
 First vessel pass through Miraflores locks Oct. 14, 1913.
 Permanent organization of canal administration in effect April 1, 1914; Col. George W. Goethals first governor; existence of isthmian canal commission ended.
 First freight barges go through canal from ocean to ocean May 14, 1914.
 First steamship (the Cristobal) passes through canal Aug. 15, 1914.
 Canal opened for general traffic Aug. 15, 1914.
 Canal blocked by slides September, 1915, to April, 1916.

interests." Blaine, his secretary of state, instructed America's European representatives to explain that this policy was in strict accordance with "principles long since enunciated by the highest authority of the government."

He referred to the Monroe doctrine.
 Now it was that James B. Eads, builder of the wonder-working jetty at the mouth of the Mississippi, came forward with a project for railroadng full-laden ships across the isthmus of Tehuantepec; and, while nothing came of this, Mexico did grant the concession. (It should be mentioned that with Louis Napoleon's project, went 200,000 acres of land; a hint of the present canal zone).

The Universal Inter-Oceanic Canal Company headed by de Lesseps, was organized February 1, 1881, and commenced its work. The Panama route had been decided upon, and the cost of the canal estimated at \$132,000,000. It is amusing to read, in Willis Fletcher Johnson's *Four Centuries of the Panama Canal* (the author is a former editor of the *North American Review*), of the enormous schemes by which investors in the company—with which, so unfortunately, de Lesseps' name was connected,—were bilked out of their money. In 1888, after seven years, the company was bankrupt. It had spent \$400,000,000 and not half the work was completed. Reorganized in 1893, with \$180,000,000 more, the French company expected to complete the canal. Its work proceeded, always under the jealous eye of the United States.

And it soon had a rival in the Maritime Canal Company, taking up the Nicaragua project and beginning work at Greytown—old San Juan, renamed when England, under Palmerston's aggressive policy, practically resolved upon war, if necessary, to have the canal, and established her protectorate over "the king of the mosquito coast"—and spending all its capital, \$6,000,000, before the panic of 1893 made it impossible for the time being to raise any more money. The project might probably have been taken over by the American government, as was proposed, had the Spanish-American war not intervened.



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But it did, the Oregon made its spectacular voyage from San Francisco to the West Indies around South America under the command of *Fighting Bob Evans*, and the public demand for a canal was renewed with a persistency that would not down. McKinley appointed a commission, in 1899 which recommended the Nicaragua route because, while the Panama route seemed to be cheaper, "the Colombian government is not free to grant the necessary rights to the United States, except upon condition that an agreement be reached with the New Panama Canal Company." The commission believed that no such agreement could be effected, the company holding out for \$109,000,000 (on its outlay of more than \$400,000,000) and the commission's idea being \$40,000,000. When the company came to the commission's figures, the commission changed its recommendations from Nicaragua to Panama.

The Spooner bill of 1902 then authorized the president, Roosevelt, to purchase the rights of the French company and to proceed with the work at Panama, under certain conditions to be granted by Colombia—in which government, succeeding New Granada, Panama was a political entity with the right of secession. Such had been the stipulation with New Granada, and it resulted in the building of the canal by the United States. With the canal a *fait accompli*, speaking to the historical society at San Francisco, Roosevelt said "it is a mistake for any person privately, or for all persons publicly, to hire me to do anything unless they want it done."

We observe that talk of building the canal, by the United States, had been going on for 75 years; Roosevelt proposed to change discussion into accomplishment. Not Colombia, but Colombia's dictator, Maroquin, stood in his way, Panama being then still under Colombia, from her provisionary union with New Granada. Maroquin had begun as vice president, but achieved the presidency by jailing the elected incumbent; and when he had done this he procured the congress. So situated, he was treated with: for \$10,000,000 the United States was to acquire the canal rights, when, with not more than \$10,000,000 the French company's rights were purchased. The agreement effected with the French company, Maroquin developed scruples, and convened the Colombian congress, which held null the extension of the company's rights, for ten years, which otherwise would have expired in 1904, and null also Maroquin's agreement to grant the United States canal rights for \$10,000,000.

Roosevelt says that the American minister, Baupre, learned that to assuage the scruples of Colombia would require another \$10,000,000. Roosevelt himself went on the war path, as was natural with him, and Hay went into the records once more. As to the United States, Hay found that its covenant with New Granada bound it only to protect the canal zone from any assault from without, which covenant he held to run with the land, not with succeeding governments as they might legally or arbitrarily be established; and that the covenant did not extend to suppression of revolutions. As to Panama, Hay reread the terms upon which it had originally united with New Granada, and its subsequent history, culminating in what Roosevelt describes as its seizure by Colombia "without regard to the articles in the treaty under which it had joined." In Panama, too, Roosevelt discerned a dozen revolutions brewing. Roosevelt says anyone falsifies the terms that he formed a canal revolution. From army officers sent to find out the facts, he learned that a revolution would occur in Panama if the Colombian congress adjourned (in November, 1903) without ratifying the treaty Maroquin had made with the United States—for it was now clear that either Nicaragua or Panama was to get a canal and the one which was not was to be kept alive for the good reason that it formed a canal revolution, therefore, Roosevelt merely let one brew; and when Panama had thus asserted her privilege to secede, Roosevelt made terms with her and started the steam-shovels to working. He paid the French company \$40,000,000—"We drove, as was our duty, a hard bargain with

LABOR FORCE

The actual working force on the canal averages about 12,000, of whom nearly three-fourths are colored or "half-breed" employees. The Panama canal completed twelve years of operation at the close of business on Aug. 14, 1921, having in operation a connecting operation Aug. 15, 1914. During the twelve years of operation 35,560 foreign vessels transited the canal on which tolls aggregating \$14,707,734.55 were collected. Approximately 70 per cent of the total transits and 76 per cent of the total tolls collection have occurred during the last six years of operation.

PANAMA CANAL TOLLS

Merchant vessels carrying passengers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity. . . . \$1.20
 Warships, gunboats, torpedo boats, destroyers or cargo, per net vessel ton (each 100 cubic feet) of actual earning capacity.71
 Navy vessels, lighter than gunboats, colliers, hospital ships and supply ships, per displacement ton.50
 Army and navy transports, colliers, hospital ships and supply ships, the vessel to be measured by the same rules as are employed in determining the net tonnage of merchant vessels.1.20
 Tolls may not exceed the equivalent of \$12.25 per net registered ton as determined by United States rules of measurement, nor be less than the equivalent of 75 cents per net registered ton.

them," he says—"for work done, of the actual value of about \$70,000,000," and of a little machinery." He adds: "It was of vital importance to Panama that the canal should be built. It quadrupled, quintupled, multiplied many times over the value of the isthmus to the people as a whole, and to each individual thereof. . . . There is not one action of the American government, in connection with foreign affairs, from the day when the Constitution was adopted down to the present time, so important as the action taken by this government in connection with the acquisition and the building of the Panama canal."

But Roosevelt's interest in the canal did not date merely from his advent in the White House. While he was yet governor of New York he had denounced the original draft of the Hay-Pauncefote treaty. The virility of his eloquence before the historical society on this point is worth marking: "The first draft of the Hay-Pauncefote treaty did not vest full power in the United States over the canal. (It) provided in effect that the canal should be under the joint control, not only of the United States and Great Britain, but also of France and Germany. Imagine! Imagine the pleasure of administering a canal under such a combination during the past year (1914); and yet all the pacifists, all the peace-at-any-price people, all the 'old women' of both sexes, prattled and screamed in favor of our adopting such a policy, apparently on the ground that, as it was going to be bad for ourselves it might be good for somebody else. . . . The treaty that was adopted shortly after I became president contained the two provisions for which I had asked. . . . In the treaty itself it was made our duty to police the canal, and by an interchange of notes immediately afterwards the construction was explicitly put upon the treaty that we were at liberty to fortify it and England and France and Germany were all eliminated from the control of the canal, and that is why the canal has been at peace."

PANAMA RAILROAD

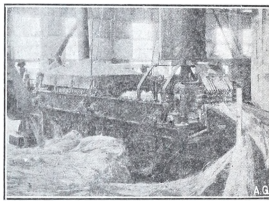
The Panama railroad, which the steamships run in connection with it between the New York and Colon are owned and operated by the United States government. The road virtually parallels the canal nearly the whole distance. It is forty-six and a half miles long and runs between the cities of Colon and Panama.

CANAL ZONE

The Canal Zone contains about 436 square miles, of which 224 are under the government control of 27,143. It begins at a point three marine miles from mean low water mark in each ocean and extends for the entire length of the canal. The canal line of the route of the canal. It includes the group of islands in the Bay of Panama, named Colon, and the islands of Barro Colorado. The cities of Panama and Colon are excluded from the zone, but the United States has the right to enforce sanitary ordinances and regulations in public order there in case the republic of Panama should not be able to do so.

CANAL STATISTICS (OFFICIAL)

Length from deep water to deep water—50.5 miles.
 Length on land—40.5 miles.
 Length at summit level—31.7 miles.
 Bottom width of channel—Maximum, 1,000 feet; minimum (in Gaillard cut), 300 feet.
 Depth—Minimum, 41 feet; maximum, 45 feet.
 Summit level—85 feet above mean tide.
 Locks in pairs—12.
 Locks, usable length—1,000 feet.
 Gatun lake, depth—85 to 45 feet.
 Gatun lake, area—164 square miles.
 Locks, usable width—112 feet.
 Concrete required—5,000,000 cubic yards.
 Time of transit through canal—10 to 12 hours.
 Time of passage through locks—3 hours.
 Length of relocated Panama railroad—46.2 miles.
 Canal Zone area—About 448 square miles.
 Canal Zone area owned by United States—About 372 square miles.
 Lands available for acquisition—2,150.
 French buildings used—1,537.
 Value of utilized French equipment—\$1,000,000.
 Cubic yards excavated by French—108,046,060.
 Cubic yards excavated by Americans—250,000,000.
 Canal force, average employed—About 39,000.
 Approximate cost of construction—\$375,000,000.



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CANAL TRAFFIC BY YEARS

A summary of the commercial traffic through the canal in 1925, as compared with other calendar years, is given in the following table:

Year	Tonnage	Tolls	Charge
1914*	350	1,284,293	\$1,508,237.56
1915+	1,154	3,902,592	4,297,467.11
1916+	1,217	3,817,704	3,671,162.68
1917+	1,960	6,217,052	6,187,696.63
1918	3,013	6,409,886	6,315,559.69
1919	2,130	6,943,487	6,973,095.30
1920	2,814	10,378,265	10,295,362.21
1921	2,783	11,435,811	11,251,998.80
1922	2,997	12,992,573	12,573,407.37
1923	5,207	24,737,437	25,966,838.18
1924	9,023	24,411,760	26,009,416.34
1925	9,774	22,958,158	21,380,759.70
Grand total.	32,179	135,478,437	130,162,497.67

* Canal opened to traffic Aug. 15, 1914.
 + Canal closed approximately three months by slides.