

- 3 Steam shovels of the 45-ton class, with 1-½ cu. yd. buckets.
- 21 Steam shovels of the 70-ton class, with 2-½ cu. yd. buckets.
- 29 Steam shovels of the 95-ton class, with 5 cu. yd. buckets.

Altogether, the steam shovels made an array of fifty-three.

The locomotives in service numbered eighty-two American and twenty-nine French, the latter having been bought in the purchase of the canal plant and rebuilt.

The cars in service were 299 dump, of the Western American make, 743 flat, of American make, and 200 dump of the French pattern. Right there was illustrated for the visitors the difference in the plant which the United States is employing as compared with the almost obsolete equipment sold by the French when the Canal was turned over. The American dump cars carried twelve cubic yards and the flat cars carried eighteen cubic yards each. They were of standard length. The capacity of the French dump cars, which were shorter, was only five cubic yards. It was a series of object lessons such as this which prompted one of the Club members to say publicly a few hours later that the visitors had found Mr. Stevens and his force doing in twelve hours what the French had not been able to do in two weeks.

The plant in operation in the Cut as the party looked on included eighty-nine steam drills, twenty-three wall drills, thirty-two plows, twelve unloaders, thirteen spreaders.

This was the mechanical part of the force. The brain and muscle were represented in the Cut by 845 Americans, 2,404 European laborers, 2,097 West Indian laborers, and 924 natives and white foreigners. Of such elements were made up the human and the mechanical forces, digging the way for nine miles.

Gradually installing this plant and placing this human force along the nine miles of Canal proper, the Chief and his staff have increased the amount of "spoil", as they call it, removed from the Cut. Last summer they were digging and carrying away about 175,000 cubic yards a month. In February, as already stated, they removed 650,000 cubic yards. Up to March 1st the spoil taken out of the Cut amounted to 5,035,500 cubic yards, a very



Dumping a Car Load of Spoil.

good beginning on the 52,000,000 cubic yards to be taken away in order to give everywhere at least forty-five feet depth of water in this section of the Canal, and everywhere at least 200 feet width at the bottom of the Canal. A considerable part of the nine miles of digging will give forty-five feet of depth and more than 200 feet width of channel.

The bottom and some of the benches or side levels are now in trap rock, which means harder work than when the shovels were in the clay and shale. Of the 566,750 cubic yards taken out in January, the amount of rock was 299,292 cubic yards, or fifty-three per cent. To break out this rock required 180,965 pounds of explosives, a little more than ninety tons.

The plant for the Culebra work means much more than the tracks and machinery in operation. Perched upon the mountain tops and sides are the hundreds of houses erected by the Commission for the offices and quarters of the people employed. And more of these structures, novel to American eyes with their supporting piers of masonry and their screened porches, are in course of erection. At Pedro Miguel—the Americans have anglicized it into Peter Miguel—which is the terminus of the Culebra section of the Canal toward the Pacific end, there is a track yard with four and one-half miles of track to facilitate the movement of the trains working in the Cut. Through this yard passed 7,000 cars in January. Near Bas Obispo, which is at the other end of the nine miles, or, to be more exact, the nine miles and 3,800 feet, of the Cut work, is White House yard, with its three miles of track, through which pass the trains carrying spoil northward to the dumping places. In January there were handled in White House yard 10,000 cars. These figures are necessary to give some understanding of the magnitude of what is doing in Culebra Cut. But they are inadequate. Only the views taken in succession through a long Panama day could convey the proper impression of what degree of practical progress has been reached.

When they had lunched and had talked some time with the Chief Engineer and his staff on the hill above the Cut, the members of the Commercial Clubs went with Mr. Stevens to Bas Obispo and climbed upon flat cars with covered tops and open sides to proceed slowly through the entire section of Culebra. Before they started upon this inspection the party looked at some of the plant which the French turned over with the Canal rights for the \$40,000,000. They saw locomotives and cars filling several miles of track. Most of this rolling stock is of such diminutive sizes as to render it of no further use. Such engines and cars as can be utilized have been put in condition and are being operated. Upon much of this stock was the date, 1886. What progress has been made in locomotives and cars in twenty-one years the comparison of the French with the American on adjacent tracks told impressively. Much of the French material was of high class, the American engineers and machinists say. In some of the discarded French locomotives is found \$1,000 worth of copper. The Commission has found service for \$800,000 worth of iron and other material turned over by the French. But a great deal of what the French left behind can be of no value whatever in the present plan of construction. Hundreds and

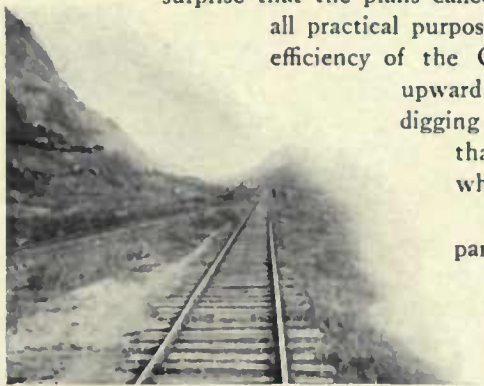
hundreds of tons of machinery have been shipped as scrap iron in ballast from Colon to the States because no use could be found for it on the Isthmus. And still there is a wilderness of this machinery scattered from one end to the other of the Canal Zone. The enormous French dredges are to be seen in the low places at either end of the Canal route. They are very complicated of construction and will never lift a cubic yard of spoil. The machinists go to the French machinery for parts that can be utilized in repairs, but they have abandoned hope of being able to make the French plant of much account. A tangle of vines is over the abandoned machinery. The jungle partially conceals much of this material. Trees of several inches circumference have grown through the dredges. Several acres of French locomotives parked at Empire are all but hidden by the tropical plants along the tracks.

At Bas Obispo the members of the Clubs were shown how the lake made by the Gatun Dam would narrow to a width of 500 feet as the Canal route enters the more mountainous part of the Canal Zone. Where the party took the observation cars they found that the bottom of the Canal work was only seventy-four feet above sea level. The French had left off digging at the point where they reached 100 feet above sea level. The work of the Americans represented the lowering of the bottom from the 100 feet level to the seventy-four feet level. The excavation will go down thirty-four feet more to give a depth of forty-five feet of water when the dam is built and the lake filled. Here the Canal will have a width of 500 feet at the bottom for a distance of one and one-half miles, then narrowing to 300 feet for a distance of four miles. As the observation cars moved slowly into the Cut and the walls rose higher and higher, the members of the Clubs expressed no surprise that the plans called for the narrowing of the channel. Where 300 feet was sufficient for

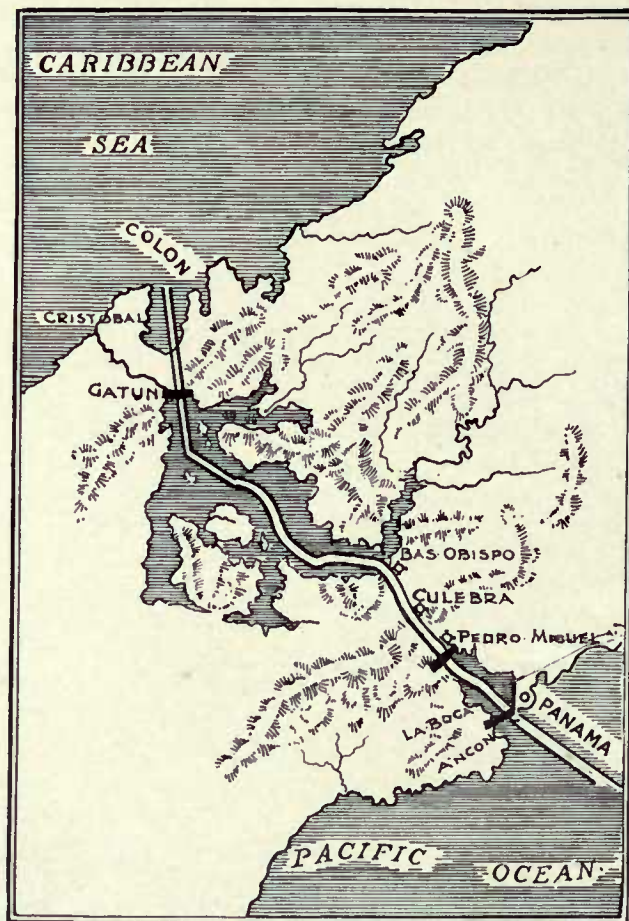
all practical purposes there was no reason to remove more of the mountain sides than efficiency of the Canal demanded. The grade of the present bottom of the work was upward as the train proceeded into the Cut. This called for much more digging than at Bas Obispo. Very soon the visitors were told by Mr. Stevens that where the train had halted they were 100 feet above the sea level, which meant that the bottom would have to go down at least sixty feet.

At steam shovel No. 210, as Mr. Bolick indicated the locality to the party, the visitors were told that where they stood they were just ninety feet above sea level and that the bottom must go down fifty feet to complete.

A little farther on was White House bridge. There the bottom is 143 feet above the sea, and 103 feet more must come out of "the big ditch," as the Chief Engineer occasionally called it. Just before reaching steam shovel No. 223 Mr. Stevens told the visitors they were 131 feet



The top of the divide — Colebra Cut. The highest point, 135 feet, still to be dug out. Gold Hill at left, looking towards Panama.



above the sea. He pointed to the stakes which showed where the French stopped work at 196 feet above the sea. Here the Americans have lowered the bottom sixty-five feet for a distance of 800 feet. But the Americans have done a great deal of digging which is not shown in the lowering of the bottom. As the French became pressed for means and felt the necessity of making a showing on paper of progress downward, they narrowed their workings. The Americans, looking to ultimate completion of the Canal, with full dimensions as planned, have taken a great deal from the sides. For a distance of two and one-half miles beyond White House bridge is a stretch where the bottom is 165 feet above the sea. The Americans have not lowered the bottom in this stretch, but they have widened it from fifty feet, where the French left the sides, to about 240 feet. Before reaching Gold Hill the illustration of this widening work was pointed out. The Americans have taken off from three to five cuttings with the steam shovels on each level, or bench. Each cutting represents a width of forty feet. The members of the Clubs stopped repeatedly to observe the operation of the shovels. They saw the teeth of the buckets sink deep into the mountain side, bringing out dirt and rock from two to five cubic yards at a bite. They timed the rapid movement of the machinery and saw the spoil go into the car at the rate of four or five buckets in two minutes. They saw a train of ten cars loaded in less than half an hour. They saw the device, which in half an hour moves 200 feet of railroad track between three and four feet. As the work progresses the tracks must be shifted. Not infrequently a mile of track must be moved into new position within a single day.

A little distance beyond Culebra station the party stood on the backbone of the Western Hemisphere at its weakest vertebra. Here the bottom of the Canal will be 127 feet below the present level, which is 167 feet above the sea. On one side of the Canal Cut is Gold Hill, and on the other side is Contractors' Hill. In the gap between these hills was the highest level above the sea, 325 feet, when the French began to dig. The French made a narrow cut of considerable depth, but what they did was only a small part of the total excavation necessary. Here the Americans have widened the Cut. Gold Hill at the summit is 600 feet above the sea. The Hill opposite is 450 feet above the sea. The greatest amount of spoil to be moved is in this part of Culebra Cut. But the problem is only one of moving dirt and rock, the engineers explained. Beyond Gold Hill the slope of the country and the slope of the workings is toward the Pacific. The amount to be taken out lessens rapidly as Pedro Miguel is approached.

The members of the Commercial Clubs were interested in a comparison of the Suez and Panama canals as regards width and depth. The Suez Canal, the engineers said, has a depth of thirty feet and a minimum width, at the bottom, of 108 feet. The Panama Canal will have a minimum width, at the bottom, of 200 feet, but that is for only a few miles in the heaviest work of the Culebra Cut. For the short distance through lighter work in the Culebra Cut the width will be 300 feet, but for most of the route of the Canal the width will be 500 feet or more. The minimum depth of the Panama Canal will be forty-one feet, but for the greater part of the route the depth will be forty-five feet or more.

The members of the Commercial Clubs completed the trip through Culebra Cut with Mr. Stevens and his staff late in the afternoon and spent the night at the Tivoli Hotel, just out of Panama far enough to bring them within the Canal Zone.

In the evening the Clubs gave a reception in the parlors of the Tivoli to Mr. Stevens and 150 officials of the Isthmian Canal Commission and of the Republic of Panama. The occasion was rendered memorable and interesting by the comments of the members of the Clubs on what they had seen during the day, but especially by the tributes paid to the Chief Engineer and his organization, and by the speech of Mr. Stevens in response.

Mr. Whitelaw, president of the Commercial Club of St. Louis, presided over a gathering which included nearly every man of prominence in the Canal organization on the Isthmus, the members of the Clubs having as their guests President Amador, and Secretary of State Arias of the Republic of Panama, the Mayor of the city of Panama, Senor Osa, and other officials of the Republic. A toast to the President of the United States was proposed by President Amador and was received with enthusiasm. The Secretary of State of the Republic of Panama spoke in a patriotic strain. President Whitelaw, for the visitors, said:

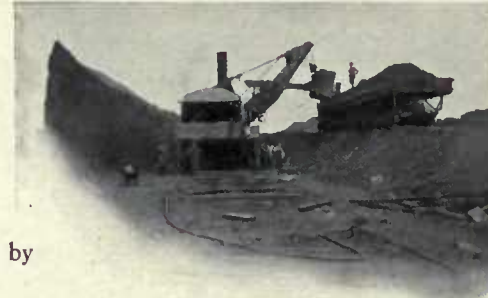
"We in the States are very much interested in this Canal, and we want to show our friends who are assembled here tonight, our guests on the Isthmus, that we are here, we think, to help in this project. We are, as you say, out 'on the firing line' to inspect what you are doing, and I want to say we are surprised at what has been accomplished. We believe there is no difficulty whatever about the consummation of this great work. It requires only time, money and brains. We feel that you are as much engaged in a work of patriotism, a work for the glory of the flag, as if you were on the battlefield, and we want you to know that we propose to stand by you and uphold your hands in every way we can. We are much pleased to think that we have patriotic citizens of the United States such as you whom we have had the pleasure of meeting here this evening, and who are willing to put their shoulders to the wheel and carry forward this great work. I think President Roosevelt was right when he said that the persons who have any part in this great work will be recognized when the work is finished, and that their names will be on the roll of honor just as much as if they had been soldiers in the United States Army in the time of war.

"I now desire to call upon and to introduce to you the man behind the gun, Mr. John F. Stevens."

There was great cheering when Mr. Whitelaw introduced the Chief Engineer as the "man behind the gun." Mr. Stevens said:

"We have had a great many visitors come here during the past two years, and they have come from many different motives. Some have come here in a friendly way to offer advice or criticism. Some, I am sorry to say, have come with unfair motives, and some, who have come to scoff, have remained to praise. But I think the greatest compliment to us who are doing this work has been the visit we are now enjoying. When we recall that a body of 100 business men from the principal cities of the United States have

On Gatun Hill—A Steam shovel working in clay on the site of the locks.





THE TIVOLI HOTEL

A view from the Avenue of Palms on Ancon Hill looking East to Panama Bay.

taken their valuable time to see for themselves what we are doing, I think we all ought to feel complimented. I do myself, and I think every man here does. We want you to see everything there is to see, and we are sorry you cannot remain longer. We have done the best we could, working under discouraging circumstances. The greatest obstacle was climate, but I think that we recognize now that this is at least as healthy a place as the majority of us come from. I lived three years in the Southern States, and I think that the health conditions here today are far better than they were where I lived and worked during those years. This great work of sanitation has been accomplished by our sanitary department. The labor problem has been a great one, but we have gradually overcome it. As for the work we have done, you can see for yourselves. I am reminded of a story of a lonely grave way back in the hills over which was a headstone, upon which was the inscription. 'He done his damndest; the angels could not do more.' We have done nothing to be ashamed of, and many things to be proud of."

At the conclusion of the remarks of the Chief Engineer the cheering was repeated again and again. Mr. Elihu Thomson, the distinguished electrical engineer, and a member of the Commercial Club of Boston, followed with a brief talk, enthusiastic in commendation of what had been seen and heard during the day. Mr. Thomson said:

"I must say that our trip today has been one of the greatest incidents that we can look back to in our lives. I think I express the thought of every member of the Clubs who came to visit the Canal, that a more interesting day has never been spent by any of us. And the chief interest is, to see what the men who are at work on the Isthmus have accomplished.

"It is one thing to have the machinery to do work. It is necessary to have that. But with all the machinery you may have you cannot accomplish an undertaking unless the men are there to do the work, and it is to these men, who are carrying on this gigantic enterprise, the greatest perhaps ever undertaken by any civilized nation, that we look with sympathy and with appreciation. We came here and found a great enterprise organized on the most substantial basis, progressing as we could not have hoped to see it progress, and showing the success of that organization by what has been accomplished in the past. The members of our party are connected with engineering and other large enterprises, and we look upon these matters from a business standpoint; we can appreciate with the greatest sympathy the work that the engineers and other men who are working at this problem are doing. That the Canal will be finished is an assured fact, and I am certain that it will be finished in our lifetimes. It is a grand enterprise. It is the union between an insulated ocean—I am speaking now electrically—of the Pacific Ocean as insulated from the Atlantic Ocean. You are trying to put a puncture through that insulation. This will be accomplished; the insulation will be punctured by high pressure from behind, and we shall have a great highway between the two oceans



ON BOARD THE SPECIAL TRAIN

From left to right: Sitting at the windows—John F. Stevens (Chief Engineer), David R. Francis. Standing—L. D. Dozier, Arnold Shanklin (U. S. Consul General), Stephen L. Bartlett.

through which will pass the commerce of the world. We cannot prophesy what that commerce will amount to. It may be that after the Canal is finished we shall find some day that it is too small, and that it will be necessary to take off another slice to make it larger.

"Now as to the nature of the enterprise; we came here, many of us, imagining the possibility that a sea-level Canal would perhaps be better. I, for my part, have come to the conclusion that the engineers were right and that the lock Canal is the thing; that it is the only thing: I have entirely given up the sea-level idea.

"I know that the enterprise will succeed. It must succeed, and when it has succeeded the great nation to which we belong will have accomplished the greatest engineering work the world has ever seen."

The concluding speech on the formal program of the evening was by Mr. David R. Francis, of St. Louis. Mr. Francis said:

"This undertaking which we have come here to inspect is an unprecedented one in the history of our country. A great many years ago a distinguished Kentuckian, Henry Clay, with a numerous following, advocated the construction of national highways at the expense of the general government. Later Congress made appropriations to aid in the construction of a transcontinental railway. But never, until the beginning of this Canal project, has our government undertaken any work beyond its own borders.

"I think I express the sentiment of all of the people of the United States, regardless of political affiliations, when I say that this project has, from its inception, met the hearty approval of all public-spirited citizens of our country. In fact, the thoughtful men of the United States saw no escape from our government and our country undertaking the work of uniting the Atlantic and Pacific Oceans by a Canal across this Isthmus.

"Over a hundred years ago we announced to the world our definition of the Monroe Doctrine. We said to the nations of Europe and of all the world that we are unalterably opposed to any foreign country acquiring any additional territory or jurisdiction in the Western Hemisphere. Having taken that position, and it having met with enthusiastic response from every quarter of our country, and from every generation since Monroe, there was no alternative left to us but to assist the people of this hemisphere who were affected by it. We said to Europe: 'You cannot purchase territory here.' We could not stand back and say 'We will not buy territory,' and, 'We will not help the people of Central and South America to develop their territory.' It was incumbent upon us, as a duty we owed to the people of the Western Hemisphere, to promote the interests of that hemisphere. As an element in this we felt that the United States should control the Canal that unites the waters of the Atlantic and Pacific. When France secured the right to build the Panama Canal the Congress of the United States determined that it would construct another Canal, across Nicaragua. The French people—and I say it to their credit—feeling that the interests of the commerce of the world, if not the interests of the human race, demanded that the two great oceans should be connected, and feeling that two Canals could not be constructed at the same time, said to the United States, 'We will sell you the Panama Canal.' There was nothing left to do but to purchase it. They sold us the Panama Canal, in my judgment, at a bargain. The forty millions of dollars we paid for the Canal was the best investment of a commercial character the United States ever made. The work we have seen today not only demonstrates the truth of what I have said, but also establishes the fact that the French are entitled to great credit for the work. If we were placed back twenty-five years and were compelled to rely upon the machinery in use at that time we could not have accomplished in one week, or in two weeks, the work that Mr. Stevens and his assistants accomplish today in twelve hours.

In the Trap Rock—A section of the Canal at Bas Obispo, where the excavation is down to the stratum which must be drilled and blasted.



"I think this Canal will enable our country—and by our country I mean the United States of America—to acquire and retain what it should have acquired years before this, and that is the commerce of Central and South America. We should not be compelled to send our mail to South and Central America by way of England or other European countries. When the Canal is completed we shall have direct lines of steamers to the west coast of South America, through the Canal, as well as to the eastern coast. And, in my judgment, it is impossible to overestimate the commercial value of the Panama Canal. I am sure every citizen of the United States now upon this Isthmus, whether engaged upon this work, or a visitor, cannot but feel his heart swell with pride that this great work was undertaken by the American Republic. I have little patience with men who are always looking for some ground upon which to criticise a public enterprise. I think that men administering government and performing public work are always entitled to the impartial judgment of the citizens of their country. I have little patience with visitors who come to the Isthmus with their minds made up to find something to criticise. What we wish to do is to have this work completed in a workmanlike manner and in the most expeditious way possible. I am sure, at the same time, the citizens of the United States will have no patience with any policy or effort to make the construction of this Isthmian Canal a political agency.

"I feel that I would be unjust to my own feelings if I failed to express my thoughts concerning another feature of this work, and I wish to say that I speak for myself alone. I believe it is a great misfortune for the success of this work that the man in charge for two years past has decided to sever his connection. One of the most difficult parts of any work to perform, especially a work of the character of this, is the formation of an organization, the building up of a working force. It is just as necessary to form such an organization before beginning the work as it is to take good sight with one of the large guns upon a man-of-war before firing. The man in charge realized the necessity for such a policy. My observation is that the two years have been wisely spent. Not only has a working organization been formed, but much good physical work has been done. But although an organization may be formed, and all the modern machinery and supplies secured and put at work, there must still be an *esprit de corps* in the men performing the work. That *esprit de corps*, we find existing here, but not, I fear, with the same enthusiasm that characterized it forty-eight hours ago. The personality of an organizer and leader is a great factor in any work, and while it may be replaced in this instance, and possibly improved upon—which I extremely doubt—I still think the risk is too great to have made the change. I know nothing about the reasons which brought about this change, and I am only giving expression to sentiments which I cherish and the thoughts that come up in my mind. If the change was brought about by the government in Washington, it, perhaps, is wiser than we are, but I still say that I believe the promotion of this work could have been better effected without a change at this time. If the change is the result of the volition of the man himself I think—and I say it in his presence—that he has made a mistake. I think he has missed an opportunity of building to himself a monument that would go down through ages to come, a heritage for his children, of which they and their children and their children's children should be justly proud.

"There is only one other thought that I wish to express on this occasion, and that is this: no one can visit the people of Central and South America as I have within the past sixty days without being impressed with their hospitality and their kind-heartedness and with their general good feeling toward all people who visit them. This enterprise has the good-will of all the people of Central and South America. I may say here, fearing that I omitted to say it earlier, that I am sure the people of Central and South America do not mistake what we mean by the Monroe Doctrine. We have no desire or intention of colonizing the countries of Central and South America. We wish to have them maintain their independence with the form of government they have adopted, which form is fashioned after our own. I am sure the people of Central and South America will have no thought that the people of the United



A view through Culcra Cut.

States has any idea of annexing or subjugating them. Their hospitality is well known, and we who have visited them have seen that the reputation they enjoy in that regard is well deserved.

"I think I express the sentiments of all of the members of this party when I say to the President of Panama that we appreciate the cordiality of our reception. We shall do ourselves the honor of making a formal call upon him tomorrow. While we are not delegated to make any formal expression I am sure he will appreciate the force of what we say when we express to him our appreciation of the good-will and assistance the people of Panama have rendered toward this great Canal enterprise.

"We thank you for your presence here this evening."

From the grand parlor of the Tivoli, at the conclusion of the more formal program of the evening, Mr. Whitelaw, of St. Louis, the presiding officer of the evening, and Mr. Taylor, of Cincinnati, chairman of the committee in charge of the evening reception and supper, led the way to the dining room. The members of the Clubs were the hosts. Their guests were the officials of the Republic of Panama, the heads of departments of the Canal Commission, the diplomatic and consular corps of Panama, the representative business men of Panama. Seated about many small tables in the spacious dining room, the hosts mingled with their guests. A buffet supper was served, after which Mr. Whitelaw happily introduced several of the guests. Entertaining and mirth-provoking were the impromptu talks.

Among those called upon was Mr. Edward J. Williams, head of the Financial Department of the Commission. Mr. Williams said:

"Mr. Chairman, Friends and Neighbors, Members of the Commercial Clubs of Beer-making St. Louis and Cincinnati, Bean-eating Boston, and last, but not least, dear old Chicago, the home of the Fastidious Pork Sausage:



Where the two men are standing was the bottom level in Culebra Cut which the French company reached. The motor car is on a level sixty-five feet lower which represents the digging done by the United States in this section of Culebra Cut.

"Mr. Chairman: It strikes me that it is most unfair of you to so unexpectedly call on me this evening, especially as this is the first day of the month and has been pay-day, I being called upon in my official capacity several thousand times today (however this is the only time when I have not been prepared) by the honest, efficient men whom you have seen working with such energy and so intelligently on this, the greatest piece of work ever attempted by human hands. They seem to heed not in the least the statements of one Poulitce Biglies, made by him, no doubt, in order to make a dime magazine a success, in which he called them grafters and incompetents, unable to secure positions in the States; but judging from their actions, should he ever visit this Isthmus again he had better have a delegation of friends on hand to identify his remains.

"A great deal has been said here tonight about

the progress the United States has made on the Isthmus since its occupation, but to my way of thinking if not the most; certainly one of the most noticeable things has been overlooked. I am willing to admit that Colonel Gorgas has trimmed a few mosquitoes, that Bolick and his light opera troupe have broken all yardage records at Culebra Cut, that Colonel Tom Cooke has stamped a few well filled caskets, but they don't look so much when you stop to think how W. G. Bied has changed the Panama Railroad from two streaks of rust, connecting the "Crab-eaten Sea" with the Pacific Ocean, and a few French tea-kettles into a modern, thoroughly equipped railroad with a grand roadbed, all trains running on time and very comfortable, such as you rode upon today.

"But to return to the pay: There are some who are listless and some who are ashamed to take the money, but we are ashamed when we find that we are able to hand *one* such a small stipend as is allowed by our government, when already by his management thousands of dollars have been saved, and by the completion of the Canal, with the policies being carried out that are in vogue and the new ones that are continually being invented, I miss my prediction if millions are not saved. This is all due to the grand man whom we have learned to love, whose lack of frills and whose hearty co-operation have endeared him to all, and we have just learned with the deepest regret that he is to leave. I refer to our beloved Chief Engineer.

"Gentlemen, I thank you."

When the applause which followed Mr. Williams' happy remarks had subsided, Mr. Whitelaw called upon Mr. Jackson Smith, who has charge of the Labor and the Commissary Department of the Commission. Mr. Smith responded:

"The Chairman promised that he would not call on me, he said that I had done so many things so well that he would let me off on this one. We have, as the chairman has stated, thirty thousand men; we have thirty-five thousand. We have the force here that can do the work if they will give us the money and not tie our hands in Washington. The personnel is here to dig the Canal, and it cannot be improved on. We have five thousand Americans here on this work that are second to no Americans, to no men, on the face of God's green earth. The laborers, the men who are actually digging the Canal, we are bringing from the four quarters of the earth; but it makes no difference where they come from, the Americans here will make a success of them."





AT THE SITE OF THE SOSA DAM

Chief Engineer Stevens pointing out the route of the Canal on the Pacific side.

On the left: Lucien Wulsin, Collins Thompson (Official Stenographer), L. D. Dozier, Walker Hill, D. B. Meacham. In the center: Martin A. Ryerson, John F. Stevens (Chief Engineer). On the right: D. B. Gamble, John W. Warrington, C. L. Hutchinson, Oscar L. Whitelaw, Hanford Crawford, Frank J. Jones, Chas. S. Dennison.

An interesting incident of the visit to Panama was a dinner given by the American Minister and Mrs. Squiers. The guests from the Commercial Clubs were David R. Francis, of St. Louis, John V. Farwell, Jr., of Chicago, Rolla Wells, Mayor of St. Louis, and W. K. Bixby, of St. Louis. The other guests were the President and Mrs. Amador, the Secretary of State and Mrs. Arias, of the Republic of Panama; Mr. Stevens, Chief Engineer; Colonel Perkins, commanding the U. S. Marines on the Isthmus, the American Consul-General, Arnold Shanklin; the Secretary of the American Legation, Mr. Sands, and the Secretary to the Minister, Mr. May. The dinner preceded immediately the reception at the Tivoli, Mr. Francis and his fellow guests from the Clubs escorting President Amador to the reception.

The distance across the Isthmus by rail is about forty-seven miles. To provide the yard room, the turnouts into the dumps and the parallel tracks on the different levels in the Cut means the construction and continuous use of 269 miles of running track, including the main line. The sidings represent 160 miles of track. When the big Dam is ready it will be necessary to move the Panama Railroad from its old location between Gatun and Pedro Miguel, to the side of the Lake. This means a new route almost the entire distance across the Isthmus, and in places several miles from the present line. The old road will be from seven to seventy feet under water. The new road will skirt the east side of Gatun Lake from five to ten feet above the water level.

The second day, members of the Commercial Clubs accompanied Chief Engineer Stevens and his staff over the Pacific section of the Canal route. The first day they saw and examined, so far as the progressing work could inform them, two of what President Roosevelt called the "three big problems," the Gatun Dam and the Culebra Cut. The second day was in part devoted to the remaining problem—the Lake and the Dam of the Pacific end of the Canal. A member of the Commercial Clubs, Mr. Dwight, of Boston, after going over the route, said: "The new waterway is not strictly speaking a Canal; it is to be, by a system of locks, principally two lakes through which the steamers can go at good speed."

The Canal begins, at Pedro Miguel, to make its descent from the mountain level, eighty-five feet above the sea. A lock 1,400 feet long, 350 feet wide, and seventy-five feet deep will lower vessels at Pedro Miguel thirty feet to La Boca Lake, which will have a level of fifty-five feet above the Pacific Ocean. The Rio Grande River is swallowed by La Boca Lake just as the Chagres is taken into Gatun Lake. The Rio Grande is much smaller than the Chagres. La Boca Lake will furnish about five miles of the Canal route. This lake is created by the building of two dams at Sosa Hill, almost on the Pacific ocean's edge. These dams will flood a marshy valley through which the French had dredged the Pacific end of their Canal, and where some of the abandoned

On the Shore of the Pacific—A view across the shallows where the tide ranges from twenty to twenty-eight feet.



dredges, almost overgrown with tropical vegetation, were seen by the members of the Commercial Clubs. La Boca is the present Pacific terminus of the Panama Railroad. It has tracks and docks extending out into the shallow water some distance to facilitate the loading and unloading of ships. The making of the lake and the dredging of a channel out to deep water will mean a complete transformation of La Boca. With the plans spread out before him, Chief Engineer Stevens made clear to the members of the Clubs the location of the dams and locks. He also showed how the creation of the La Boca Lake means a fresh water harbor in which ships may anchor and remain until ready to go to sea, either directly into the Pacific, or across the Isthmus to the Atlantic. The fresh water harbor of La Boca Lake is esteemed by the engineers a distinct advantage. Two locks divide the lift between the Pacific Ocean level and the La Boca Lake level, and at the same time give adequate control over tidal changes of the Pacific, which at this point are from twenty to twenty-eight feet.

Looking out from La Boca, the members of the Clubs saw the islands between which are the entrances to the Bay of Panama. They saw one old hulk which they were told was the first side-wheeler on the Pacific Ocean, and another which was described as the first screw steamer on the Pacific. At La Boca and at Corozal, in the same vicinity, were two of the plague spots on the Isthmus. The members of the Clubs saw these localities cleared and drained and in good sanitary condition. Sanitary gangs were still at work, cutting away the jungle, laying drains and extending the zone of perfect sanitary protection. In one place the visitors came upon a negro with a can of kerosene carefully oiling the surface of a rivulet, applying the preventive against the mosquito.

At Ancon Hill, just outside of Panama and within the Canal Zone limits, the visitors saw what inspired them with strong admiration—the hospitals. Here, on a fine elevation, with nothing to check the sea breezes, the French began to build hospitals. The Americans have covered the hillsides with clusters of buildings. Everywhere is the screened porch. Vegetation is limited to the grass and to the yucca palms. Nothing must interfere with the free movement of fresh air. The Pacific is on one side. The Isthmus stretches away for miles in view on the other. The City of Panama lies at the base of the hill. Ancon is ideal for hospital purposes. Here Colonel Gorgas and the medical staff have conquered that which was the harrowing factor in the Isthmian Canal problem.

Weary of body, satiated in mind, the members of the Commercial Clubs reached Colon just before dusk, the evening of Saturday, the second of March. As they climbed the long gang-way to the deck they were met by Mr. Batcheller, of the Joint Committee, who counseled quick dressing for dinner. The guests of the evening were Chief Engineer Stevens and his associates, together with the British



The last look toward the Pacific terminus of the Panama Canal.



ON THE STEPS OF THE TIVOLI AT PANAMA

Reading from left to right: First row — J. D. Bascom, Thos. P. Egan, E. C. Goshorn, C. H. Thorne. Second row — E. G. Cowdery, M. A. Ryerson, B. W. Campbell, L. A. Ault, George M. Wright. Third row — H. J. MacFarland, C. L. Hutchinson, W. K. Bixby, Robert Moore, Dan'l Catlin. Fourth row — William Whitman, C. H. Conover, L. W. Noyes, F. J. Jones. Fifth row — F. B. Carpenter, H. L. Rice, J. W. G. Cofran, Benj. Carpenter, J. T. Carew, H. C. Yeiser. Sixth row — Geo. O. Carpenter, S. Parker Bremer, Henry S. Warren (Surgeon), R. H. W. Dwight, Robt. Batcheller, Harry L. Laws. Standing — Jno. Omwake, Jno. M. Clark, D. B. Meacham, William Lodge, Walker Hill.

Consul at Colon, Mr. Hudson and Mrs. Hudson, and the German Consul at Colon, Mr. Heuer. The lady was given the place of honor at the Captain's table. She was seated between Captain von Leitner and President O. L. Whitelaw of the Commercial Club of St. Louis. She was toasted. Upon her was bestowed the emblematic button of the Commercial Clubs. Her gracious presence was requested at other tables by delegations sent to present the invitations. Her fair English face flushed with amusement, the lady bore herself with splendid self-possession, in the very novel position of the only representative of her sex at a dinner party of over one hundred gentlemen.

With great cheering the party arose and responded to "The President of the United States." The presiding officer of the evening was Edward Goepper, President of the Commercial Club of Cincinnati. Addressing the guests and the members of the Clubs, Mr. Goepper said:

"Gentlemen, our first regular toast, 'The President of the United States,' has already been proposed and accepted. 'The Lady,' the next regular toast, which we had intended to introduce after the first speech of the evening, has also been proposed and received with the approbation to which it was entitled.

"I have the great pleasure to announce to you that we are favored by the presence of the representative of the United States, and as we are about to leave his dominion and he has been so kind as to give us a certificate of good character, I am sure you will all be glad to hear from Mr. Arnold Shanklin, American Consul-General at Panama."

Mr. Shanklin, who had been untiring to his efforts to make the visit of the Clubs in every way successful, said:

"Mr. Chairman and Gentlemen:

"I cannot remember when my voice has gone back on me before, but my throat is in trouble. I have talked so much during the last two days, and have tried to so raise my voice above the noise of the train, that my vocal chords seem to be in considerable distress. I trust you will therefore pardon my hoarseness and the apparent effort with which I am compelled to speak.

"Allow me to say that I appreciate very much the kindly feeling which you have expressed. If I have done aught to make it one whit more pleasant for this party, I am glad, and am more than repaid, because, to be perfectly candid with you, it has been a matter of selfishness with me. You do not know how glad we are to see you here, and how much we regret to see you go. Such visits as yours are really oases in our life down here. We are tempted sometimes to go into ice-houses just to see how it would feel to be at home again. I am glad to know that you have been pleased with what you saw on the Isthmus, and with our modest efforts to entertain you, and I believe you are sincere when you speak of the pleasure your visit has afforded.

"Gentlemen, I have the pleasure and honor of serving the American government in the capacity of Consul-General at Panama. It is a matter of regret to me that I could not show you more attention, but you could not give us the time. You came in like a streak and are going out the same way. We would like for you to have stayed with us long enough for us to have carried out the program we had arranged in your honor, but there were others waiting for you.

"And now I shall not take more of your time or impose upon your patience further than to say that we beg of you, as you proceed on your way to Jamaica and thence on to Cuba and home, not to forget us. As you sail on and the waves dash against the sides of this good ship, as you glide safely over the rolling billows, let the stars tell you that we have not forgotten you, and let them remind you of us.

"I have a telegram addressed to Governor Francis and the members of the Commercial Clubs, which contains a parting message for you, and which I shall read. It is from the American Minister, Mr. Squires.

“Governor Francis and members of Commercial Clubs, Boston, Cincinnati, Chicago and St. Louis: I regret exceedingly that I will not be able to dine with you this evening and particularly that I shall not be able to personally wish you all a bon voyage. I hope you will return another year when you may expect a warmest kind of a welcome from all the Squires family.”

Mr. Goepper next introduced the Consul of Great Britain as follows:

“We are turning our faces homeward and toward the possessions of our mother country, to whom we are so closely bound by ties of commercial and financial relations, but above all, by ties of friendship.

“We are so fortunate as to have with us as our guest of honor this evening, not only the representative of Great Britain, but we are favored by the presence of his gracious wife, and we are certainly indebted to both of them for making this an unusual incident in our voyage. It gives me great pleasure to call upon the Consul of Great Britain and to introduce to you Mr. Hudson.”

Mr. Hudson was cordially received and said:

“Gentlemen, I wish to say that I thank you very much for the honor you have done my wife and myself. I am sure it has been a great pleasure for us to be with you tonight—an honor quite unexpected, I assure you. We thought we were coming here with the Captain only, but we are very pleased to have met you.

“I thank you for the way you have received the toast which was proposed a short time ago to my Sovereign, and I can only wish you a bon voyage; and when you arrive in Jamaica I hope you will receive a hearty welcome. I was there myself a few weeks ago and saw the results of the earthquake.

“I thank you again for your kind reception to us tonight, and wish you all bon voyage.”

Captain von Leitner, rising in his place, claimed attention. He said:

As Governor Francis says do not forget the President of the United States, I think it is no more than right that we do not forget the German Emperor either.”

The toast to the German Emperor was received with great applause. Mr. Goepper introduced the Consul of Germany at Colon saying:

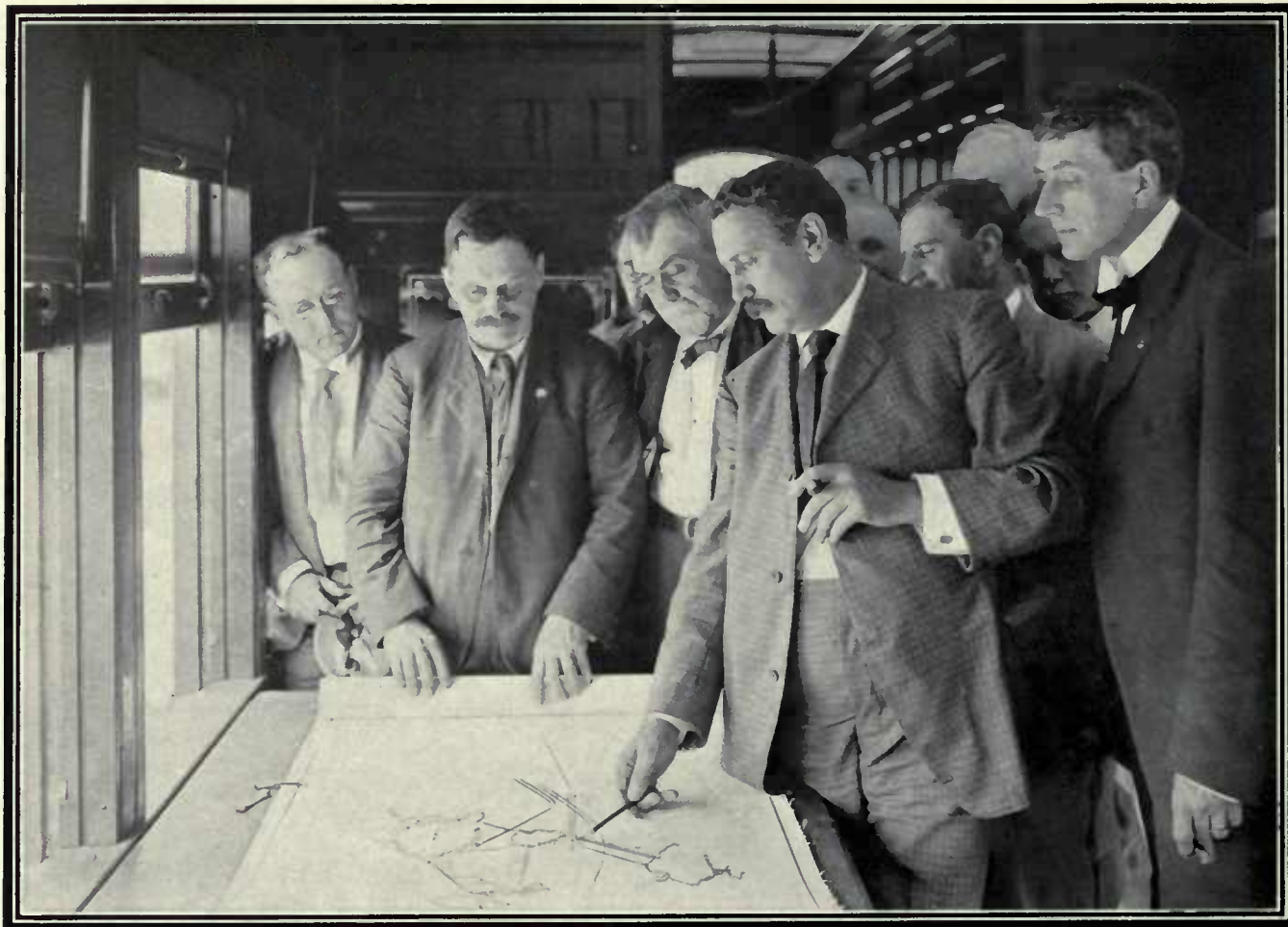
“Gentlemen, we have had occasion to be reminded of a nation that is also closely allied to us by fraternal and commercial relations, by being on this boat. The nation to which I refer has made marvelous progress in an industrial way, as you all know, and likewise boasts of a wonderful marine. I think it is therefore eminently proper that we should have a few words from another guest of honor this evening who has been so kind as to be present, and I will ask Mr. Heuer, the German Consul to address you.”

Mr. Heuer responded pleasantly as follows:

“Gentlemen, I also came in my private capacity as a guest of Captain von Leitner, as I supposed, but finding myself in the company of you gentlemen, I am none the less happy to be here. I think it is one of the greatest pleasures of my life. I hope the trip you are making on this German steamer may be a very delightful one, and that one of these days you will return to Colon, to find the progress made on the Canal equally as gratifying and satisfactory as you have found it on your present visit, under the able direction of Mr. Stevens.”

Mr. Goepper next introduced Mr. Bierd, Manager of the Panama Railroad. He said:

“I am reminded that we are expected to leave before the shades of evening grow much heavier, and I see the Captain is already growing a little nervous. Therefore we shall be obliged to curtail the evening’s entertainment and make it more brief than was planned, but we cannot permit our guests to leave us without referring to the visit we have had on the Isthmus during the last two days, and being reminded of the attention given to every detail of our comfort—which only those who have had similar experience can appreciate.



THE CANAL ON PAPER

Chief Engineer Stevens showing the plans of La Boca Dams. Those looking on (reading from left to right): Charles H. Thorne, Elihu Thomson, Edward Goepper, Robert Moore, Robert Batcheller, Rolla Wells, Chas. W. Knapp, Henry C. Scott, Jas. A. Green, D. B. Meacham.