

GOETHALS TO CRITICS

"LOCK TYPE BEYOND QUESTION BEST."

Embodies Views of President in Address on Panama Canal Construction at Chicago.

Chicago, March 16.—Colonel George W. Goethals, chairman of the Isthmian Canal Commission, in an address delivered before the Illinois Manufacturers' Association...

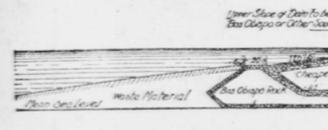
The lock type of canal is beyond question the best. It will accommodate the largest vessels afloat at the present time. A sea-level canal...

This is a nutshell of the premise of his argument, and he further summed up the worth of the recent attacks on the canal plans when he said:

The sea level canal proposed by the majority of the board of consulting engineers is not of sufficient width, nor is the proposed solution for the impounding and diversion of the Chagres and Gatun streams based upon sufficient investigations to insure its success.

In my opinion, the present estimate of the cost of the Panama Canal is not a realistic estimate. It is based upon data which are not reliable. The several other plans of lock type canal have nothing in their favor that the plan now adopted does not possess to a greater degree.

ORIGINAL PLAN AND CHANGES. At the beginning Colonel Goethals reviewed the steps leading up to the acquisition of the canal property, including the work done by the French...



MAXIMUM CROSS SECTION OF THE GATUN DAM, EMBODYING CHANGES SUGGESTED BY THE BOARD OF ENGINEERS THAT RECENTLY INSPECTED THE SITE.

and the conditions which obtained when the United States engineers began their task. Outlining briefly changes in the original plan Colonel Goethals said:

Certain changes have been made in the original project, the most important being the withdrawal of the locks from Sosa to Miraflores in December, 1907. This resulted in a change in the direction of the channel in Panama Bay.

A second change is the widening of the four and one-half miles of Cutlers cut to a width of 400 feet. This was done by executive order, and was not made on the recommendation of the board of consulting engineers.

A third change is the location of the breakwaters in Colon Harbor. The necessity for these breakwaters was made apparent in the winter of 1907, when a storm of some magnitude seriously interfered with shipping.

A fourth change is in the dimensions of the locks. As proposed by the minority they were 500 feet by 25 feet, usable lengths and widths. These dimensions were subsequently changed to 500 feet by 100 feet.

He explained in detail the effects of the "slip" in the Gatun Dam construction which occurred in 1907. It was entirely local and did not in any way interfere with the work. He continued:

As a result, however, the public is told that dire disaster will follow the undertaking unless the present plans are abandoned and the Straits of Panama constructed—that is, a sea level canal. To accomplish this, however, a lock canal must be built first, and subsequently widened.

MR. WATTERSON ON FIRING LINE. Corrects Report That He Had Retired from Active Politics. [By Telegram to The Tribune.]

Louisville, March 16.—Henry Watterson, in reply to an invitation to a Jeffersonian dinner here, while denying the rumor which has been circulated over the country that he had retired from active political matters, he said:

"Some words of mine, written during moments of agonizing affliction and deep dejection, and not intended for publication, have created the misimpression that I am in a state of bordering on despair. It would not be true to say so. I am in the enjoyment of robust health, I have no thought of withdrawing from the firing line of my own appointed field of duty or abating any interest in the affairs of our country and our party."

PAUL STANLEY DEAD. Denver, March 16.—Paul Stanley, comedian and composer of the song "Ta-ra-ra Boom-de-ay," died yesterday. Stanley, whose real name was here yesterday Stanley, was here with his wife since the San Francisco earthquake. He was reduced to straitened circumstances and his health was much impaired by the earthquake. He was sixty-one years old.

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NAVIGATION IN TWO TYPES.

As there had never been any question raised as to the safety and stability of the dams at Pedro Miguel and Miraflores, with the Gatun dam accepted, other things being equal, the relative merits of the lock versus sea level canal rested upon the ease and safety of navigation offered by the two types.

On this point Colonel Goethals said: In the sea level type offered in lieu of the lock type already described, the Chagres River is controlled by means of a dam across the valley at Gamboa 4,500 feet long, 750 feet of which is subject to a pressure due to a head of 170 feet during extreme flood stages of the river.

The prism of the canal is to have a bottom width of 200 feet through the earth sections, or for nearly half its length, and a 200-foot bottom width through the rock sections. Nineteen miles of the length are made of curves, so that the proposed sea level canal is not a wide, straight and open channel connecting the two oceans, but a narrow, winding ditch, with varying currents of unknown strength, impeded by a lock and threatened by a dam resisting a pressure due to a head twice as great as that of the river.

To be sure, the partisans of the sea level type are now proposing to eliminate both the Gamboa dam and the tidal lock by making the channel so wide as to reduce the currents that result from the discharge of the Chagres and the difference in tides, but fail to explain how they propose to control or divert the Chagres, the bed of which would otherwise enter the canal prism. If the canal at the junction, as data are not available for preparing accurate estimates for even such a sea level type as originally offered, neither they nor any one else can offer any figures as to time and cost for the construction of such a canal as they now propose.

In any comparison, therefore, we must confine our attention to the lock type as now building, and a sea level canal as offered by the board of engineers, and not by the idealist. So far as the two types are concerned, for ease and safety of navigation the lock type is better because of the greater widths of channels, fewer and easier curves, and freedom from objectionable and troublesome currents, both from the Chagres and its tributaries. This must be admitted by all, but the opponents of the sea level type conceal the dangers that will result from the failure of the Gatun dam, forgetting that at least equally great disaster must follow the failure of the Gamboa dam. The lock in the sea level canal is not mentioned, probably because the danger is not so great, since there is but one.

Experience shows that the risks to ships in narrow channels are not negligible and important. In such a channel as the original Suez Canal the delays and losses to commerce were great and the canal was not profitable, although the benefits of the widening is striking, this is true even now. It is well known that the narrow channels connecting the Great Lakes have been obstructed repeatedly by vessels aground or wrecked in such a manner as to block traffic. Even in the entrances of the Great Lakes there is a frequency of accidents, which illustrate the difficulties encountered in navigating narrow and tortuous channels.

Accidents in locks have been relatively few, and none of a serious nature have occurred at the St. Mary's Falls Canal during fifty-four years of its use. The risks to ships in such a narrow waterway as proposed for the sea level canal at Panama far outweigh all hazards in the proposed lock canal, provided the latter is built so as to minimize the chance of accident at the locks. This is met by providing every possible safety device, by building in duplicate and by the installation of a system by which the vessels will be controlled by powerful electric machinery on the lock chamber, and by the installation of a system of a vessel's crew or engine room staff, which once led to an accident at the Manchester Ship Canal.

The estimated cost of the sea level canal for construction alone sums up to \$47,600,000, and if to this be added the cost of sanitation and civil government until the completion of the work and the \$50,000,000 purchase price, the total cost to the United States of the lock type of canal will amount to \$72,600,000. In the preparation of these estimates there are no unknown factors.

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The majority of the board of consulting engineers estimated that from ten to thirteen years would be required for the completion of the sea level canal. The Isthmian Canal Commission and the then chief engineer fixed the time from eight to nine years for the completion of the locks, and until the control of the Chagres River is assumed by the United States. It will take at least six years to complete the dam at Gamboa, and until the control of the Chagres River is assumed by the United States. It will take at least six years to complete the dam at Gamboa, and until the control of the Chagres River is assumed by the United States.

Should an earthquake visit the isthmus the chances are that the effect upon the Gatun dam would be less disastrous than upon the Gamboa dam, said Colonel Goethals. The solid concrete construction of the locks, strengthened by reinforcements, would be as proof against any earth shocks as any structure which man built anywhere, and the sea level canal had as much to fear as the lock canal.

The vulnerability of the lock canal in time of war is another argument advanced in favor of the sea level type, but had little weight, as the sea level type was equally vulnerable from attacks by land or air.

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"THE CHURCHMAN" REPLY RABIES ON INCREASE.

Says Action in St. John's Case Is Opposed to Church's Guide. "The Churchman" will publish in its issue on Saturday an explanation of its attitude toward Bishop Greer's person and his office.

The scourge of rabies in New York State is increasing so rapidly that quarantine restrictions seem to be imminent, he said. "When it is known that two-thirds of the cases tested are afflicted, it can readily be seen what proportions the epidemic has reached."

GOVERNOR GIVES USE OF ARMORY. Permits the Municipal Art Society to Hold Exhibit in 22d Regiment's Home.

Governor Hughes gave permission to the Municipal Art Society to use the 22d Regiment Armory, at Broadway and 68th street, for its forthcoming exhibition, which will be open to the public for several weeks, beginning on May 3. The city will contribute the cost of lighting the armory.

30,000 WORD CHARGE TO COOPER JURY. To Be Read To-day—Prosecution Sanguine of Two Convictions. Nashville, Tenn., March 16.—Judge Hart was prevented from charging the jury in the Cooper-Sharp trial to-day. Attorneys on both sides fairly swamped the court with requests for instructions and compelled him to go over much of the work he had completed. It was late to-night when he dictated the last paragraph.

DR. CUYLER'S WILL FILED. Dr. Theodore Ledyard Cuyler, dean of Brooklyn clergymen and a former pastor of the Lafayette Avenue Presbyterian Church, left his estate, estimated at approximately \$25,000, to his wife, son and daughter. His will was filed in the office of the Surrogate of Kings County yesterday afternoon.

CIVIL WAR VETERAN DEAD. Captain W. H. Dare Proved in Stirring Days That He Was Appropriately Named. A week ago Captain William H. Dare, pilot and inventor, jumped from a window of the Flushing Hospital in Flushing, Queens Borough, while clad only in his pajamas. He was exposed to the rigors of the night for an hour before being captured and taken back to the hospital.

THE METROPOLITAN MAGAZINE SOLD. The control and management of "The Metropolitan Magazine," of this city, passed yesterday into the hands of Melville E. Stone, Jr., son of the general manager of The Associated Press. The magazine has been in existence fifteen years. For the last six years it has been conducted by Robert H. Russell, who now retires.

By the Author of "The Secret Woman," "Children of the Mist," etc., etc. Cloth, \$1.50. "The Three Brothers seems to us the best yet of the long series of these remarkable Dartmoor tales. If Shakespeare had written novels we can think that some of his pages would have been like some of these. Here certainly is language, turn of humor, philosophical play, vigor of incident such as might have come straight from Elizabeth's day. The story has its tragedy, but this is less dire, more reasonable than the tragedy is in too many of Mr. Phillpotts's other tales. The book is full of a very moving interest, and it is agreeable and beautiful."—The New York Sun.

By the Author of "The Secret Woman," "Children of the Mist," etc., etc. Cloth, \$1.50. "That Eden Phillpotts is the greatest contemporary English novelist since Hardy and Meredith have ceased writing, 'The Three Brothers' will furnish proof. Any man who can appreciate a well-sustained plot, abundant and true action, superb character drawing, a crowded canvas, with every figure on it alive, standing out as clear and real as your own neighbors, ought to read 'The Three Brothers.'" "It is a great novel. It has the vitality to outlive a thousand more popular tales, and it is rich in wit and humor, sound thinking, fine feeling, insight and truth."—The Record-Herald, Chicago.

Eden Phillpotts's The Three Brothers

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case against Sharp was weakened by the absence in Colorado of a cousin of Sharp's, who, at the application for bond, swore that as Sharp turned away from the scene of the shooting there was a smile of satisfaction on his face. If this witness had been able to come back Sharp would suffice with the others."

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