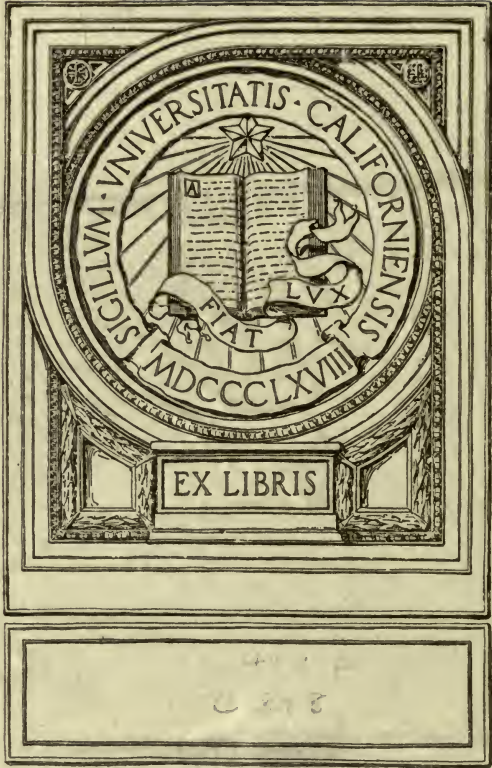


THE PANAMA CANAL
AND ITS MAKERS

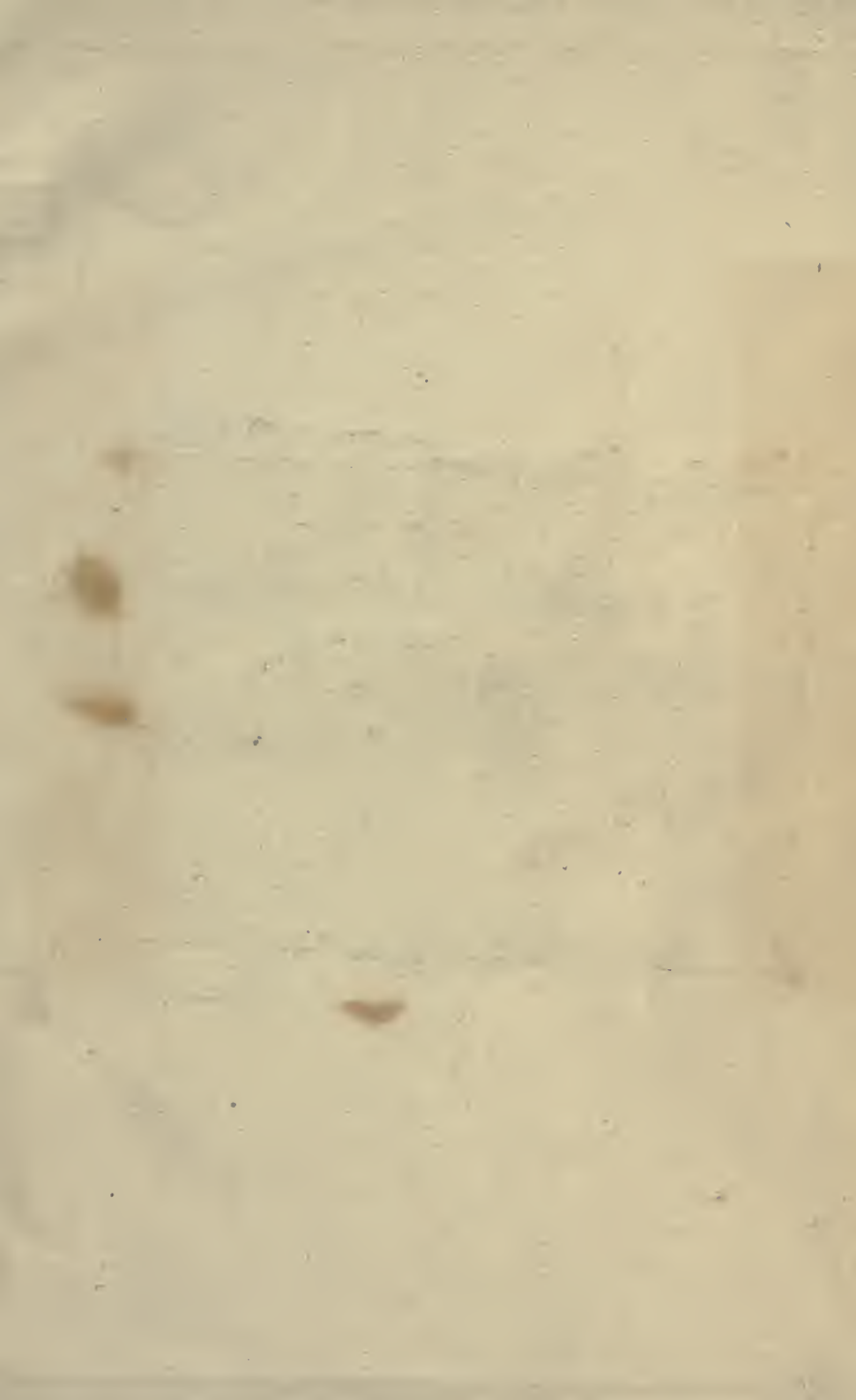
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**THE PANAMA CANAL AND ITS
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By GEORGE W. CRICHFIELD

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MAKERS OF THE CANAL.

Frontispiece.]

THE PANAMA CANAL AND ITS MAKERS . .

By VAUGHAN CORNISH

*Doctor of Science (Manchester Univ.), Fellow of the Royal Geographical,
Geological, and Chemical Societies of London,
Member of the Japan Society*

WITH MAP, PLANS,
AND PHOTOGRAPHS
TAKEN BY THE AUTHOR



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THIS BOOK IS DEDICATED

TO

THE REVEREND CHARLES JOHN CORNISH, M.A. (Oxon),
OF FLEET, HANTS, AND SALCOMBE REGIS, DEVON,

BY

HIS AFFECTIONATE SON,
THE AUTHOR.

PREFACE

I AM indebted to many persons for advice and information in connection with my study of the Panama Canal, and wish to thank particularly His Excellency the Rt. Hon. James Bryce, the Rt. Hon. Lord Avebury, Mr. Claude Mallet, C.M.G., Colonel George E. Church, Colonel George W. Goethals, chairman of the Isthmian Canal Commission, and his colleagues, Colonel W. C. Gorgas, M.D., Major D. D. Gaillard, Major William L. Sibert, Mr. Jackson Smith, and Mr. Bucklin Bishop. Also Major Chester Harding, Mr. Arango, Mr. G. R. Shanton, Chief of Police, Mr. William Gerig (formerly in charge of the Gatun Dam), Mr. Mason W. Mitchell, and Mr. Tracy Robinson.

VAUGHAN CORNISH.

November, 1908.

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INTRODUCTION

INTRODUCTION

AT the present moment the Canal Zone of the Isthmus of Panama is the most interesting place in the world. Here is gathered an army of 40,000 men engaged in the epoch-making work of uniting the Atlantic and Pacific Oceans, and here is the greatest collection of machinery ever massed for the accomplishment of one undertaking.

If the present rate of progress continue unchecked, the Canal, it is calculated, will be opened in 1915. Then will that Isthmus, which has hitherto been a barrier between two oceans but has failed to act as a bridge between two continents, be pierced by a waterway capable of floating the largest ships now built or building. Then will the Pacific coasts of the Americas be accessible from

ports on both sides of the Atlantic without the necessity of a voyage by the Straits of Magellan. Then will the distance from New York to San Francisco be shortened by 8,400 and that from Liverpool by 6,000 miles; the distance from New York to South American ports will be shortened by an average of 5,000 and that from Liverpool to these ports by an average of 2,600 miles: then for the first time Yokohama on the north and Sydney on the south will be brought nearer to New York than to Liverpool or Antwerp, and then will New Orleans and the ports on the Mexican Gulf be brought nearer than New York, by sea, to San Francisco, South America beyond Pernambuco, Australia, and Japan.

No one who cares to know the greater things which are shaping the world can now afford to be ignorant of what is happening on the Isthmus of Panama. In the former days of unstable companies the student of affairs might decline to occupy himself in the study of an undertaking of which the fruition was doubtful. Now, however, that



STATUE OF COLUMBUS, CHRISTOBAL, COLON.



CHRISTCHURCH, COLON.

[To face page 18.]

the Government of a great nation have put their hands to the plough the furrow will be driven through. The United States have acquired complete ownership and control of the Canal and of a strip of land five miles wide on either side, called the Canal Zone. The small State of Panama, in which this zone is situate, has placed itself under the protection of the United States. The Government of Great Britain has by a treaty ratified in 1901 waived the treaty right which it formerly enjoyed to share with the United States the control of any trans-Isthmian canal. The Isthmus has been freed from those pestilences which were the greatest obstacles to human effort, and the engineering difficulties are no longer beyond the scope of modern science.

Having first visited the Canal works at the beginning of 1907, I decided to make upon the spot a careful examination of the whole undertaking. For this purpose I visited Washington and made application through the proper channel to the Depart-

ment of State, which kindly consented to further the inquiry. A set of the published documents was supplied to me, and I proceeded from New York to the Isthmus by the R.M.S.P. *Magdalena*, arriving at Colon April 12, 1908. Here Colonel Goethals, chairman of the Isthmian Canal Commission, provided me with a letter to those concerned to furnish all information, and proposed that I should make my way about unattended and pursue my inquiries independently. I was thus enabled to converse with perfect freedom with the rank and file, while drawing freely on the special information possessed only by the heads of departments.

For the benefit of readers in England I may explain that these circumstances were to me of especial importance on account of the doubts thrown by American writers, and also by Americans of repute in conversation, upon the reliability of official and other information supplied to the American public on the burning topic of the Isthmus. As an Englishman, and therefore standing outside American party politics, and as a

other side of the Atlantic, I should be glad, if it be possible, to convince of my own *bona-fides* those anxious patriots who find it difficult to believe any good report from Panama. It may tend in this direction to state that I travelled and sojourned at my own charges, and that I went out on an independent inquiry. That I had promised to give an account of the Canal works to my brother geographers in London was my only undertaking, and the acceptance of a free pass on the Panama Railway my only financial obligation either in Washington or on the Isthmus.

In order properly to understand the present and future of the Canal undertaking, it is necessary to give a short account of the history of Isthmian communication, for the conditions which now face the American Government and the Commission are not solely due to present physical causes, but also to previous events.

HISTORICAL REVIEW

