## SAN FRANCISCO'S WATER SUPPLY AND SEWERAGE

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San Francisco's water supply and sewerage by Charles N. Ellinwood

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BY

CHARLES N. ELLINWOOD, M. D.

WITH ILLUSTRATIONS OF THE SPRING VALLEY WATER WORKS

LECTURE AT COOPER MEDICAL COLLEGE

February 16, 1900



#### SAN FRANCISCO'S

### WATER SUPPLY AND SEWERAGE.

The civilized world has awakened to the fact that a bountiful supply of pure water is an essential factor in man's existence.

Populous cities, tribes and races of men, have, in the evolution of time, arisen and occupied prominent places in history; and their passing, leaving only dim tracings of their existence, has been a mystery only solved in these latter years by the study of disease and the triumph of medical science in the discovery of the causes of infection and the methods of its propagation and dissemination.

We wonder in amazement that the sacrifice of so many millions of lives in the plague-spots of the world should have been repeated age after age and yet the mystery remain unsolved; that only to-day are man's invisible foes revealed and their vanquishment made possible.

To this end a great war has been inaugurated, the most humane, the most comprehensive in its inception, the most beneficent in its results. It commands the alliance, offensive and defensive, of all governments and of every people of the world, on one side; and on the other, man's destroyer, disease germs, which infest the atmosphere, the water and food products on which man's life depends,—a gigantic battle-field extending over the earth's surface—a battle involving in its issue more lives



than have been sacrificed in all other battles since the beginning of time.

There is now an organized effort being made by an organized army of scientists and humanitarians of North America to prevent the pollution of the surface water of streams, rivers, and watersheds, by stopping the pernicious practice of flowing sewage upon them.

Sanitary legislation is being asked of our Government at Washington and also of the Government of Canada for the suppression of this growing evil, by which many thousands of lives are being sacrificed, and the gravity of the situation is increasing daily, even jeopardizing the most populous regions of the continent.

The problem is presenting itself on a large scale at the present moment, by the opening of the Chicago canal, by which the entire sewage of that great city, thousands of tons daily, are carried into rivers flowing into the Mississippi River, on which great stream St. Louis and many other cities depend for their water supply for domestic and other uses.

Millions of dollars have been spent by Chicago in the construction of this great sewer canal, of incalculable benefit undoubtedly to the denizens of Chicago, but of incalculable destruction to those unfortunate inhabitants living on the banks of the rivers receiving this pollution, all the way down to New Orleans.

The State of Missouri questions the right of her neighbor, the State of Illinois, to send her filth down the stream to her, and the General Government is called upon to abate the nuisance.

The same problem is being presented in nearly all the rivers of this continent, and also in Europe as well.

As the population becomes more dense the pollution of the water by sewage increases, and those cities which are dependent upon rivers and public waterways for their supply of potable water, suffer from the contamination as

