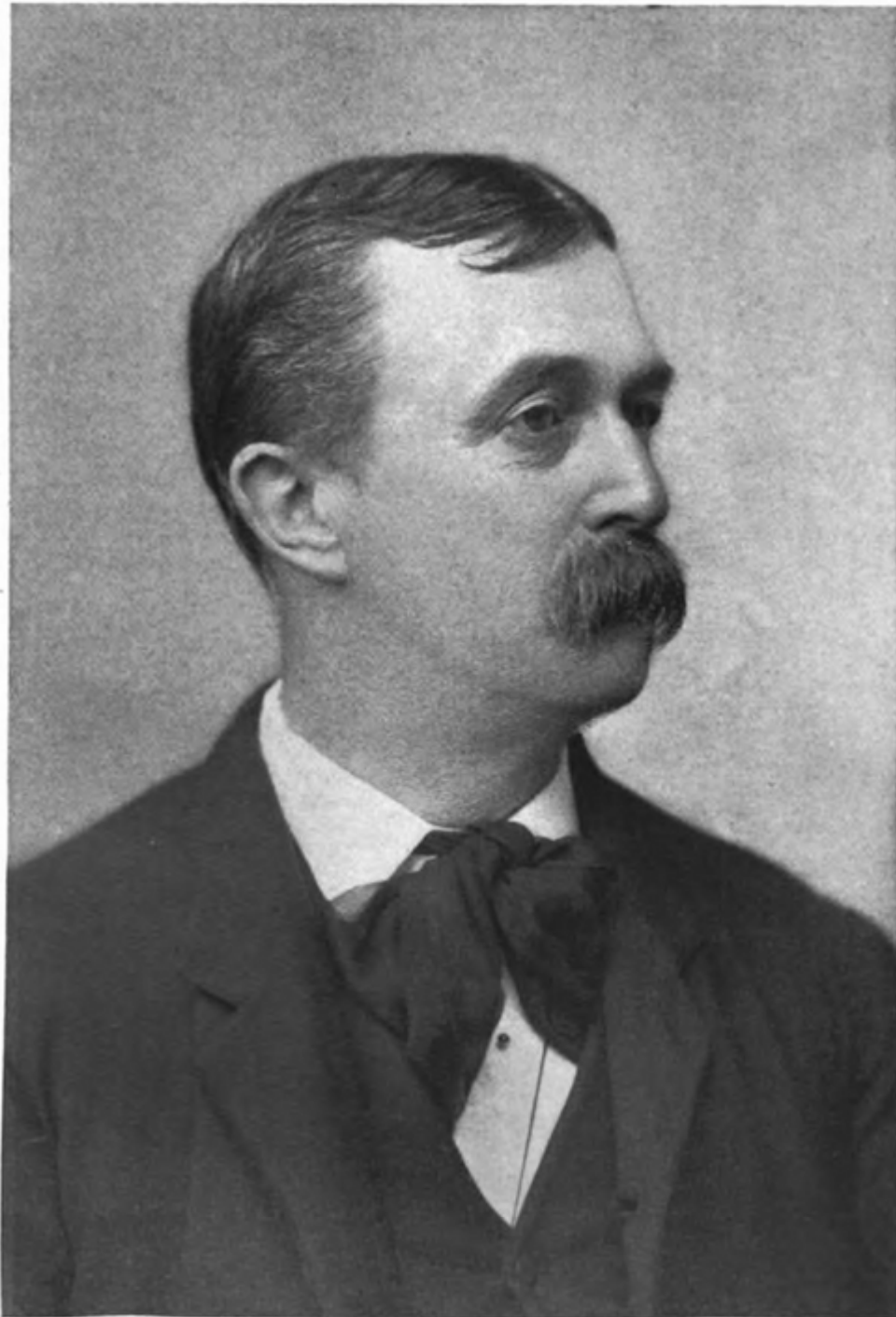


JOHN SHAW BILLINGS

By EurIng Brian Roberts, CIBSE Heritage Group



JOHN SHAW BILLINGS, M.D., LL.D.,

Superintendent of the New York Public Library—Astor, Lenox, and Tilden foundations.

John Shaw Billings, 1838-1913

John Shaw Billings was born on 12 April, 1838, in Allensville in Switzerland County, Indiana. He graduated from Miami University in 1857 and from the Medical College of Ohio in 1860: (Now the University of Cincinnati College of Medicine). During the American Civil War he served as Medical Inspector of the Union Army of the Potomac, going on to become Director of the Library of the Surgeon General's Office in Washington, DC, serving from 1865 to 1895. He devised methods on how to analyse medical and demographic information using the punched card systems developed by his assistant Herman Hollerith. (This was the origin of the Hollerith computer punch card system). Billings used this system when he acted as Supervisor for the US Census of 1890.

He took a particular interest in hygiene and ventilation and served for some years as Professor of Hygiene in the University of Pennsylvania. Billings is credited with designing the original buildings and the ventilation systems for the John Hopkins Hospital in Baltimore over the period 1876-1885. (John R Niernsee was the Consulting Architect): "Each Nightingale type ward occupied a separate pavilion, a tall one-storey building set on a raised basement through which air was drawn into the ward by way of an outlet under each bed. Vents in the ceiling and an *aspirating chimney* drew foul air out through the roof space. Each patient was surrounded by a cocoon of moving air....."

Billings was considered the leading American authority on ventilation when, in 1884, he wrote *The Principles of Heating and Ventilation*. His book *Ventilation and Heating* was published in the USA by The Engineering Record in 1893, followed by an UK edition in 1896. It contained chapters on the history of ventilation, the chemical composition of air and required ventilation rates. It also provided details and illustrations of many applications of ventilation: mines, hospitals and barracks, assembly halls, theatres, churches, schools and dwellings. Billings also described the ventilation systems of London's Houses of Parliament and of the US Capitol in Washington DC, with tables of environmental test results for the latter.

After 1895, Billings united the libraries of New York to form the New York Public Library. In 1892, he received an Honorary Fellowship of the Royal College of Surgeons in Ireland. As a physician, he was considered ineligible for membership of the ASHVE, so he was elected the first Honorary Member in 1896. Dr John Shaw Billings died on 11 March, 1913, aged 74, in New York City.



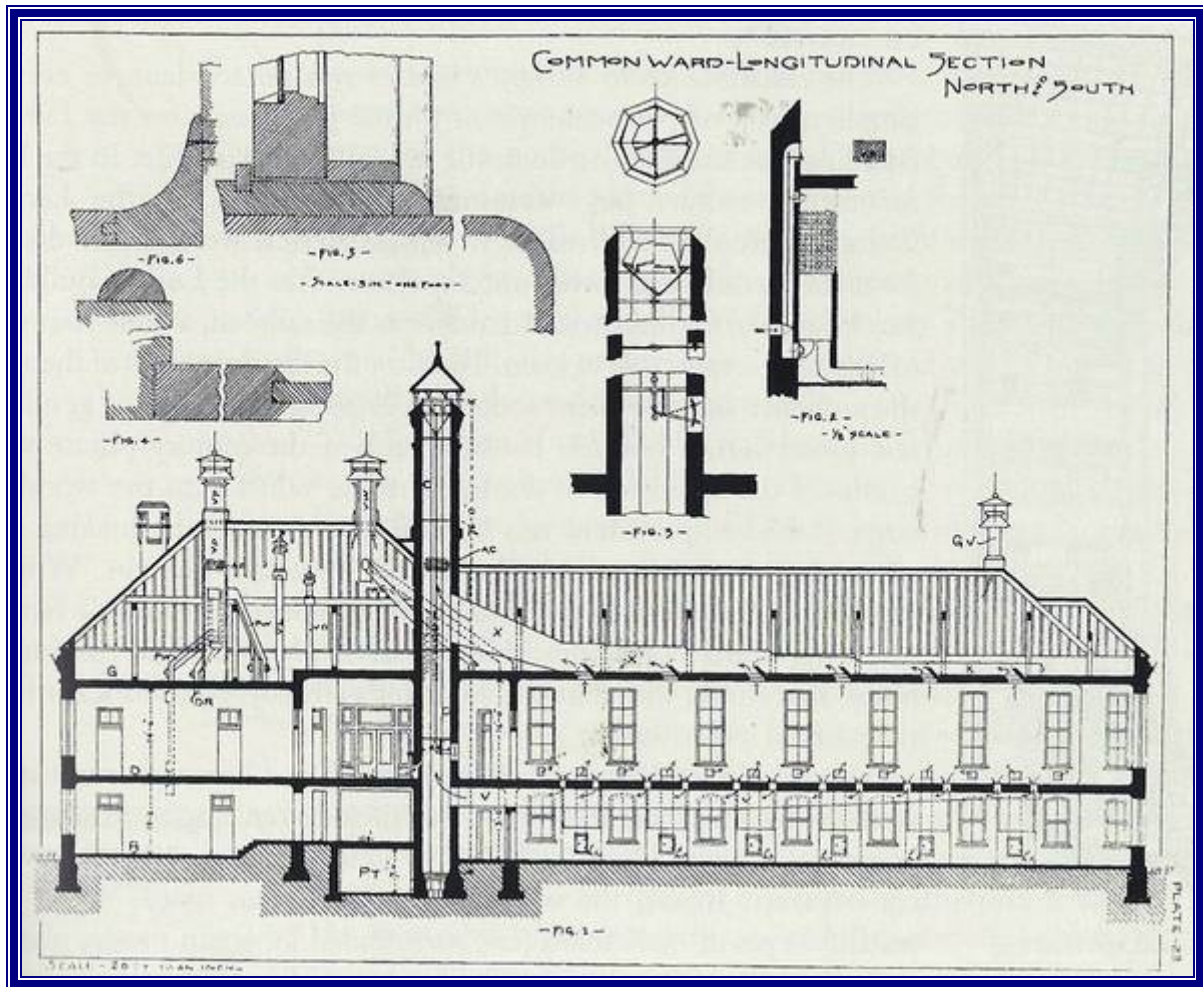
Billings at Home



The prominent ventilation chimneys of Baltimore's John Hopkins Hospital



A John Hopkins medical ward



Billings' ventilation scheme at the John Hopkins Hospital, Baltimore

NATIONAL LIBRARY OF MEDICINE

Founded in 1836 as the Library of the Surgeon-General's Office, United States Army + developed as a national resource under the leadership of John Shaw Billings, Librarian from 1865 to 1895 + named Army Medical Library in 1922, and Armed Forces Medical Library in 1952 + made a part of the Public Health Service of the Department of Health, Education, and Welfare in 1956 + established on this site in 1961, the one hundred and twenty-fifth anniversary of its founding.

Ventilation and Heating.

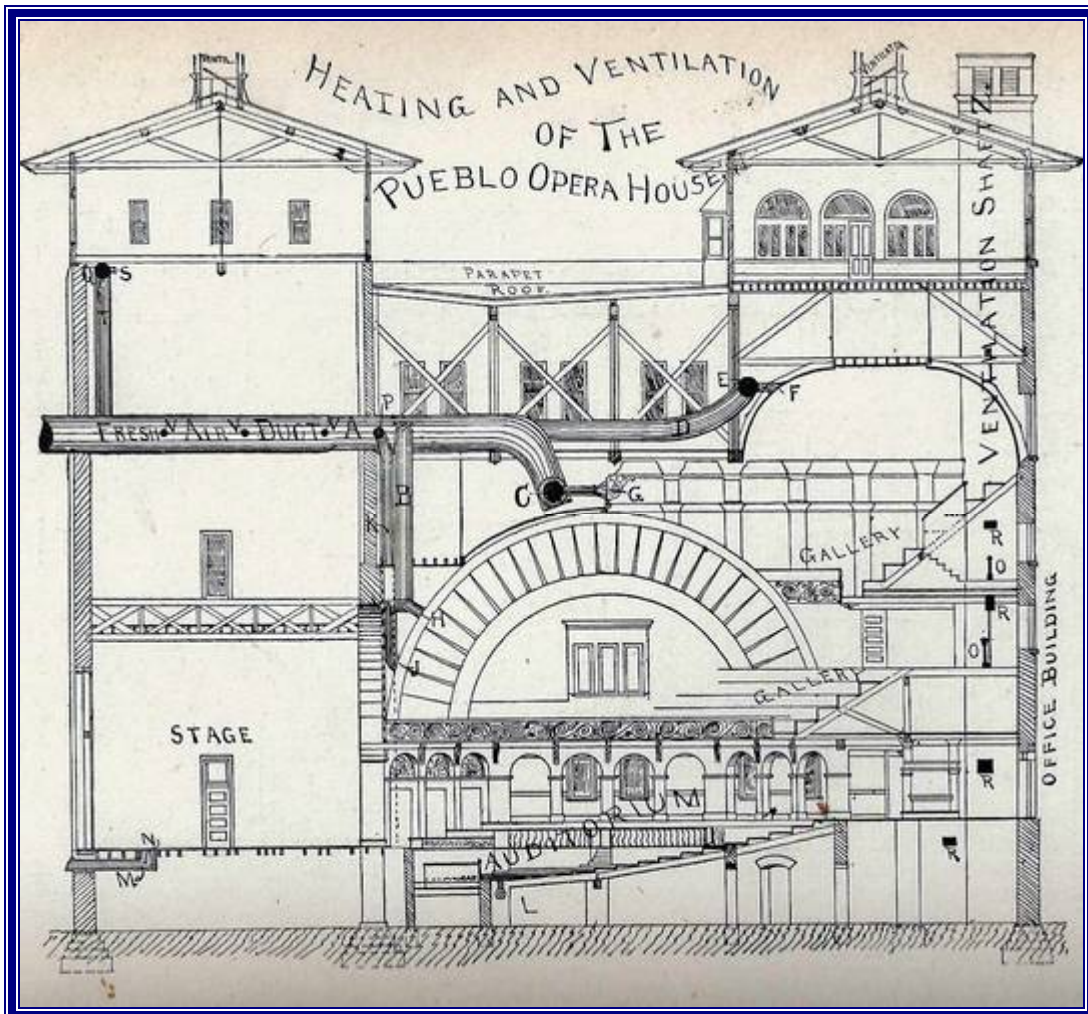
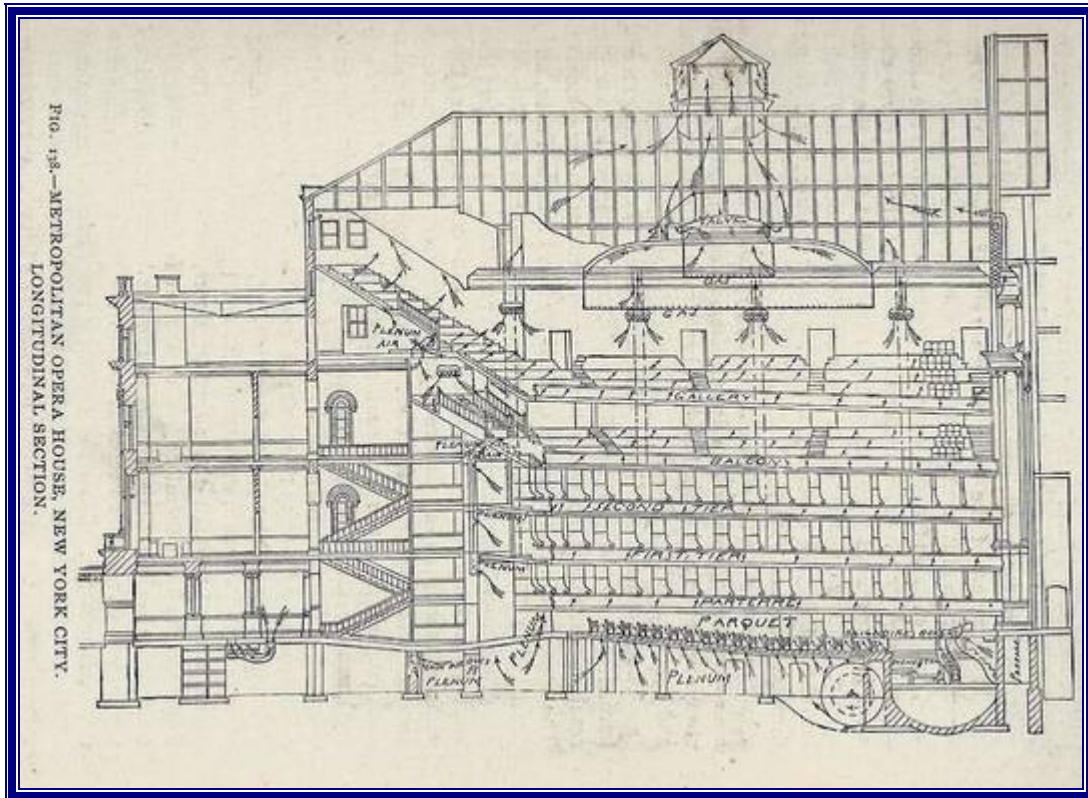
BY

JOHN S. BILLINGS, A.M., M.D.,

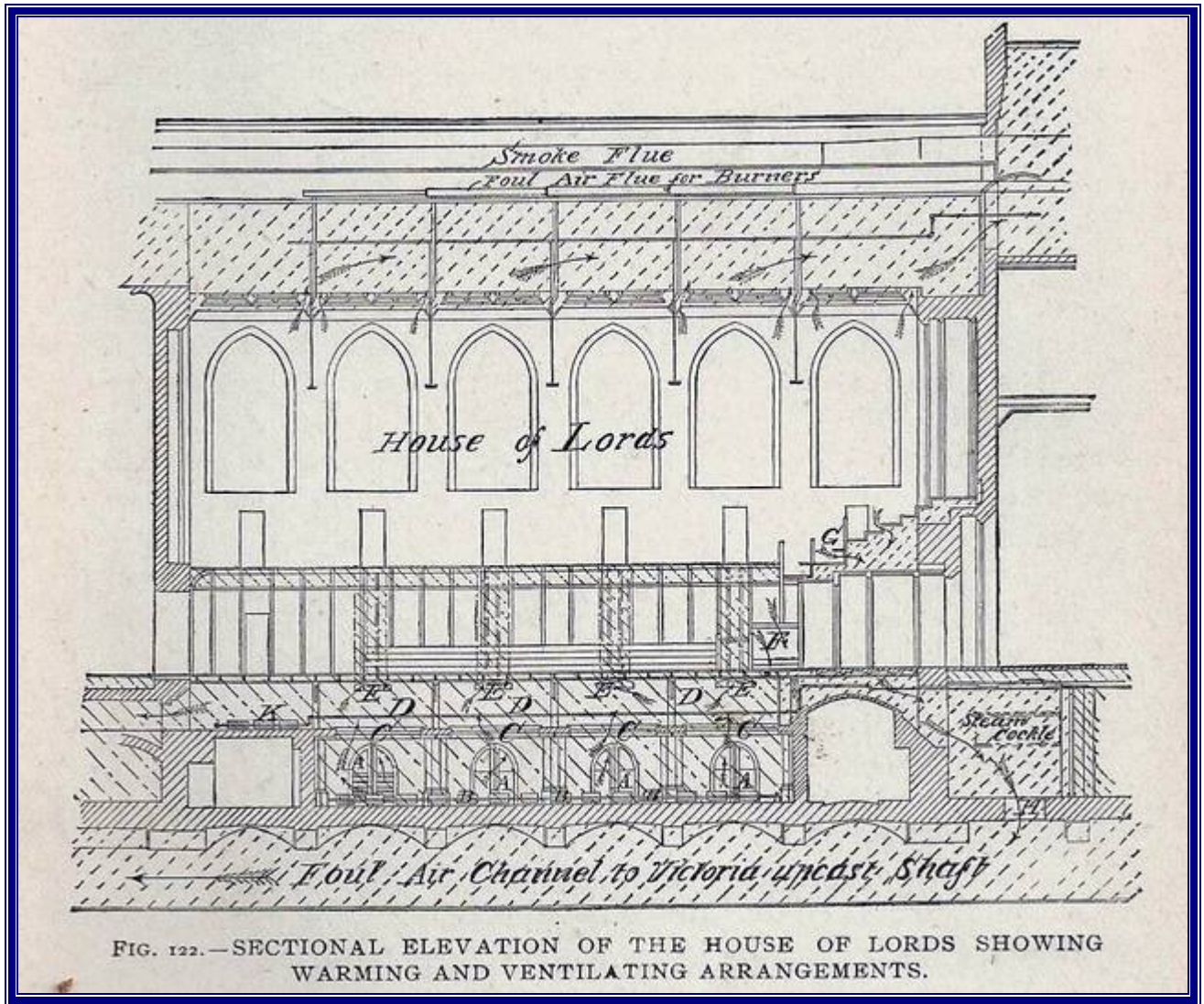
LL.D. EDINBURGH AND HARVARD. D.C.L. OXON.
MEMBER OF THE NATIONAL ACADEMY OF SCIENCES.
SURGEON U.S. ARMY, &c.

LONDON :
THE ENGINEERING RECORD,
(PRIOR TO 1887 *The Sanitary Engineer*),
1896.

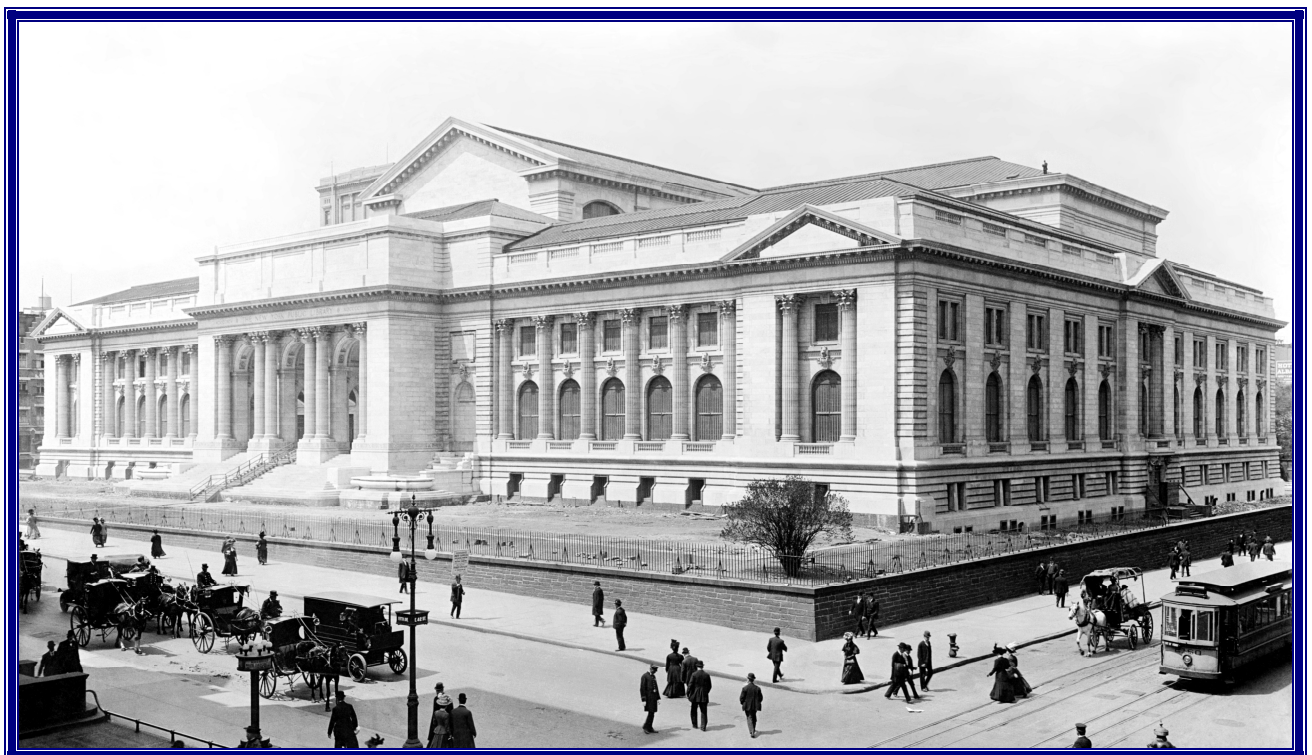
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277, Pearl Street, New York.



Examples from Billings, 1896



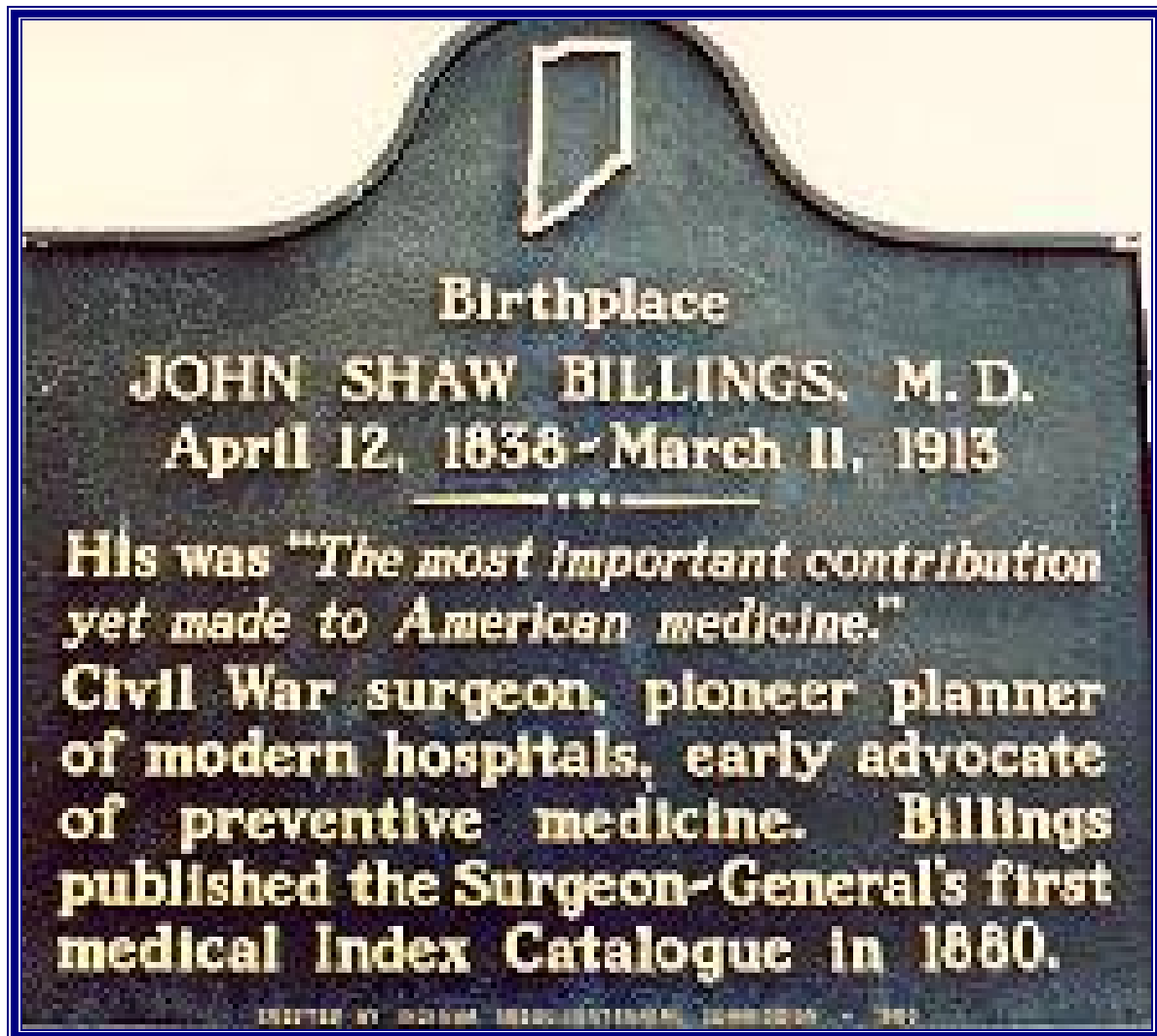
From Billings, 1896



New York Public Library, 1908



1895 Portrait of Billings in the National Library of Medicine



Commemorative Marker

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