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Department of Arts and Industries - Section of Technological Collections: Annual Report 1891 - 1892

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Report on the Section of Transportation and Engineering in the U. S. National Museum

1892

By

J. Elfreth Watkins, Curator.

During the fiscal year ending June 30th, 1892, the time of the Curator has been ~~so~~ largely taken up by ~~the~~ assignment to other duties, ~~that he has been able to devote but~~ hence little attention could be devoted to the Section.

Unfortunately for the student of the history of the steamboat and railway, little attention was given in the early days to the preservation of objects which would now be considered ~~most~~ invaluable relics of the early stages of their development.

So far as is known, ~~such~~ the important relics ~~as~~ now ~~are~~ in existence, with ~~a~~ very few exceptions, have been deposited in the ~~collection in~~ the U. S. National Museum ~~by~~ through the cooperation of the officials of the railway and steamboat companies. The future ~~exten-ion of the~~ additions to the Transportation collection must therefore ~~be mainly in the line~~ necessarily consist of models and drawings of historic objects. ~~As~~ Since the appropriations by Congress did not permit

of their construction ~~and~~ or purchase, extension of the collection during the year has been by the acquisition of such objects relating to the development of the mechanic arts, as illustrating the evolution of the epoch-making inventions.

During the year the Curator took part in the meetings # of the American Association for the Advancement of Science, at Washington: the convention of the Old Time Telegraphers' Association, at Washington; and the ceremonies at the completion of the monument erected by the Pennsylvania Railroad Company, at Bordentown, N. J. The erection of this monument by the Pennsylvania R. R. Co., to mark the first piece of track laid between New York and Philadelphia in 1831, attracted the attention of officials and employes of the railway companies throughout this country, and the general public as well, and a description thereof found place in the principal railroad journals of Europe and America. A description of the ~~plate~~ monument (~~see plate No.~~ Pl. —) from the memorial volume issued at the time, is given below:

"The Railroad Monument at Bordentown, erected

by the Pennsylvania Railroad Company, was completed in 1891. It is composed of a cube of Baltimore granite, five feet square and seven feet high, supported upon an octagonal foundation composed of the stone blocks upon which the iron rails were originally laid in the tracks of the Camden and Amboy Railroad. Around this cube is a circle composed of two of the original rails with which the road was first laid. These rails are supported by stone blocks according to the original practice, the spikes and joint fixtures also being from the original tracks. This type of rails, which is now known throughout the World as the "American rail", was designed by Robert L. Stevens, in 1831, Sunk in the South side of the granite block is a bronze tablet, which contains a representation (Carefully drawn to scale), in relief, of the locomotive "John Bull", with tender improvised from a freight truck with tank consisting of a whiskey hogshead and the two passengers cars that first did service in the State of New Jersey, in 1831.

The tablet contains the following inscription in raised letters: (~~see~~ Plate ~~No.~~)

FIRST MOVEMENT BY STEAM ON A RAILROAD IN THE STATE OF NEW JERSEY? NOVEMBER 12,1831,? BY THE ORIGINAL LOCOMOTIVE "JOHN BULL", NOW DEPOSITED IN THE UNITED STATES NATIONAL MUSEUM AT WASHINGTON. THE FIRST PIECE OF RAILROAD TRACK IN NEW JERSEY WAS LAID BY THE CAMDEN AND AMBOY RAILROAD COMPANY BETWEEN THIS POINT AND THE STONE, ? THIRTY)FIVE HUNDRED FEET EASTWARD, IN 1831.

Upon the East side of the block cut into the granite are the words:

"CAMDEN AND AMBOY RAILROAD, 1831,"

and on the West

"ERECTED BY THE PENNSYLVANIA RAILROAD COMPANY, 1891."

See bibliography in appendix. (Foot note p.2)

The program of the exercises at the Celebration, which was held at Bordentown, November 12, 1891, the sixtyeth anniversary of the first movement by steam in the State of New Jersey, was as follows:

ADDRESS OF PRESENTATION, by Joseph T. Richards,
Assistant Chief Engineer
Pennsylvania Railroad Co.

ADDRESS OF ACCEPTANCE, by F. Wolcott Jackson,
General Superintendent
United Railroads of N. J.,
Division Pennsylvania
Railroad Co.

HISTORICAL ADDRESS: The Camden and Amboy Railroad - origin and early history - by J. Elfreth Watkins, Curator, Section of of Transportation and Engineering, U. S. National Museum, Smithsonian Institution, Washington.

The Pennsylvania Railroad Company has since published the addresses delivered at the Celebration in a ~~handsome~~ memorial volume, handsomely illustrated.

Interest in the Department of Transportation at the World's Columbian Exposition, has led to frequent examinations of the collections during the year of the objects both ~~of~~ in the exhibition and reserve study series by offici-

als of ~~that~~ the Exposition, and of several railroad companies, who propose to take part therein. The Chief of the Transportation ~~Department~~ Department of Exhibits of the Columbian Exposition spent several d~~y~~a~~s~~ days in the Museum, in August 1891, where he ~~had access to~~ studied the collections and had access to a provisional outline of a proposed exhibit, which had been prepared by the curator at the request of the Assistant Secretary of the Smithsonian Institution, ~~in case~~ to be used if it was decided that the Section of Transportation and Engineering should be represented in the Government Exhibit at Chicago.

With the return of this scheme of classification the following communication was received:

Office of the Director General
Worlds Columbian Exposition.

Department
Transportation Exhibits.
Railways, Vessels, Vehicles.
Willard A. Smith, Chief.

Chicago, Ill., U.S.A.,
August 27th, 1891.

Prof. J. B. Watkins,
National Museum, Washington, D. C.
Dear Sir:

I return herewith a scheme of a transportation exhibit which you kindly loaned to me and which promises to be of much value. I am greatly obliged to you for the favor as also for the other literature which you kindly gave me. It will save a great deal of research which would otherwise have been necessary.

Yours truly, (Signed) Willard A. Smith

Access to the Study and Exhibition series in the Section was also given to Major J. G. Pangborn, Special Agent in Charge of the Baltimore and Ohio Railroad Company's Historical Exhibit at the World's Columbian Exposition. Numerous photographs of models and drawings in the collection were made by Major Pangborn's representative for this exhibit, which promises to be the most elaborate ever made at an Exposition by a railroad company.

At the request of the Chief Clerk of the Post Office Department a number of models and drawings in the collection were photographed to form the basis of illustrations for a publication which is designed to show the growth of the U. S. Post Office Department.

Among the important accessions during the year are the following:

Electrical locomotive that made the fastest recorded speed (115 - 120 miles per hour) on land, by generated power, at Laurel, Maryland, in the year 1889. Publicly reported by O. T. Crosby in his paper entitled "High Speed Electrical Works", and

by J. Dashiell, Jr., in "The Electrical Railway as Applied to Steam Roads". Both papers are to be found in the proceedings of the American Association of Mechanical Engineers.

The following letter accompanied this ~~certificate is attached to this~~ most interesting piece of machinery:

"New York, June 13, 1892.

Prof. J. E. Watkins,
Washington, D. C.
My Dear Sir:

According to your request I make the following statement. My electric motor was originated and designed by me for rapid speed, I had in view the enlargement of the same to supplant the steam engine on standard railroads for long distance service.

It was the first electric motor which was successfully run with the armatures wound directly around the axles; thereby doing away with all wearing parts, except the journals and admitting of any speed desirable.

My motor was run near Laurel, Maryland, on a circular track two miles in circumference constructed specially for making these experiments, which extended over a period of nearly two years, during which time speeds were made from 100 -- 120 miles per hour. Twenty miles per hour was the fastest speed made by any other electrical motor until mine had made 100 miles per hour.

Yours very truly,
(Signed) David G. Weems.

The following certificate is attached to the locomotive.

On December 3, 1889, I witnessed Mr. Weems' electric motor make a speed of from 115 -- 120 miles per hour.

I was employed by Mr. Weems as Mechanical Engineer for about two years, and assisted in a number of test trials of speed made with the motor, and also assisted at the time the above fast rate speed of 115 -- 120 miles was made.

(Signed) B. J. Dashiell, Jr.

The Collection has been greatly enriched by the collection of models, tem-plates and drawings of the various sections of rails, which were considered by the committee on form, weight, manufacture and life of rails, which was appointed by the American Society of Civil Engineers, in 1873, and whose deliberations have had an important bearing upon the American rail standards for the last twenty years.

This ~~collection~~ series, which is a most valuable one, was presented by Mr. Octave Chanute, past President, American Society of Civil Engineers, who was an active member of the committee, during all their deliberations.

A series of models of ~~metal~~ steel railroad cross-ties used in Europe, was deposited by ~~Mr~~ Dr. B. E. Fernow, of the Division of Forestry in the Department of Agriculture, who in his official capacity is taking an active interest in the introduction of metal ic ties upon American railroads in order that the ~~serious~~ present demands shall not continue to be made upon the forests of this Country to supply the wants of railroad buildres.

Mr. S. L. Roberts, of the Amboy Division oof the Pennsylvania Railroad, has added to the collection previously deposited by him, a number of objects illustrating the development of the rail splice. These objects were mainly collected from the old Camden and Amboy Railroad .

The value of the collection of telegraphic apparatus has been greatly enhanced through the enthusiastic co-operation of Mr. George C. Maynard, of Washington, Secretary of the American Association of Inventors and Manufacturers.

During the annual convention of the Old Time Telegraphers Association their loan collection of

telegraph apparatus was, at his suggestion, placed on exhibition in the Section, and attracted much attention.

Among the important objects since deposited are to be found the cross-arm and insulator laid on the line from Washington to Baltimore in 1841; a register and relay used in the first office opened in Indiana in 1848; twisted telegraph wire used in 1864; various forms of earthenware and glass insulators, and a pair of English dial telegraph instruments.

The collection showing the developemnt of the typewriting machine has received several valuable additions, among them the typewriter invented by John Pratt in 1864, which was obtained through his kindly assistance.

Messrs Wyckoff, Seamans and Benedict have added a Danish writing ball and other old forms of typewriters to their collection, among them, a model of the Sholes and Glidden typewriter invented in 1867, together with the original of one of the first ma-

machines made from this model.

The Curator has received communications from the Caligraph Company and Mr. W. H. Travis, of Philadelphia, both of whom promise valuable additions to this collection.

The Singer Manufacturing Company has also increased the collection of sewing machines referred to in ~~my~~ the last report.

The ~~original~~ application of Jesse Ramsden for a patent for an equatorial instrument, written and signed by himself, has been ~~deposited~~ presented to the ~~collec-~~ Museum ~~tion~~ by Mr. Park Benjamin, and placed in the case with the original dividing engine, deposited a few years since by Mr. Morton, President of Stevens Institute.

Among the relics attention ~~should~~ may be called to the model of the railroad monument erected at Bordentown by the Pennsylvania Railroad Company, and the plaster model from which the bronze tablet for it was ~~made~~ cast which were, received through Mr. J. T. Richards.

A sedan chair decorated with gold and handsomely upholstered, which was owned and used by the royal family of France during the reign of Louis XIV, has been deposited in the collection by Miss Katherine Parsons of Washington

The increase of recent interest in matters relating to the history of transportation ~~and the growth of the~~ is most remarkable, while the recognition of the importance of illustrating this phase of human effort, ~~in the estimation of~~ by the Managers of American Expositions, ~~have been remarkable.~~ is most gratifying.

At the Centennial Exposition of 1876, a single old steam locomotive and car were exhibited, together with a few implements of transportation, shown in the Ethnological Collection. At New Orleans, ten years later, a single railway exhibited a series of models of ancient locomotives and cars. At Cincinnati, in 1888, the first synoptical exhibit showing the development of the art of transportation was made by the U. S. National Museum in the Government Building where ~~only~~ a very limited space ~~square feet~~ could be devoted to the subject; ~~four years later 17 acres are set apart for~~ the exhibit at the World's Columbian Exposition.

The interest taken by the railways in this Country in the coming Exposition leads to the hope that these collections in the Museum will be

~~materially strengthened when the Exposition shall close.~~

It is indeed a matter of the greatest satisfaction to know that the important place in history of that which is occupied by the record of the development of the methods of inter-communication through which ~~the~~ over national ~~natural~~ growth has been so greatly accelerated during the century is thus to receive due recognition, ~~at the~~ four years later At the World's Columbian Exposition, ~~where~~ a handsome exhibition building containing 250,000 square feet of floor space has been erected, which together with the annex, occupies an area ~~a space~~ over 17 acres ~~in area~~. The collections of Transportation Exhibits ~~extent of the to be therein installed~~, together with the publications in relation thereto, cannot fail to make a permanent and World-wide impress (both upon the visitors who see and those absent who read), of the magnitude of the influence that the growth of the World's great systems of transportation have had upon the progress of civilization during the four centuries since Columbus embarked in a caravel at Palos.

Watkins 1892

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at Washington City

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~~A Reprint~~ and in the Railway Review, Chicago, November and December 1891.

J.Elfreth Watkins.(in the capacity of Associate Editor of The Inventive Age) Washington City D.C.

Numerous Editorials and Contributions upon Topics relating to invention.

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Washington City 10

J.Elfreth Watkins. (In the capacity as General Secretary of the Committee on the publication of General Editorial Supervision of Proceedings and Addresses, the program of which will be found in the Report of the Curator for the year 1891.)

Section Transportation and Engineering
U.S. National Museum

Published by the Executive Committee
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Washington City 1892

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