HISTORY OF THE BALDWIN LOCOMOTIVE WORKS, 1831 TO 1907

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649603503

History of the Baldwin Locomotive Works, 1831 to 1907 by Various

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

www.triestepublishing.com

VARIOUS

HISTORY OF THE BALDWIN LOCOMOTIVE WORKS, 1831 TO 1907

Trieste

HISTORY

OF THE

BALDWIN LOCOMOTIVE WORKS

1831 TO 1907

PHILADELPHIA
THE EDGELL COMPANY
1907

THE BALDWIN LOCOMOTIVE WORKS

1831

MATTHIAS W. BALDWIN

1839

BALDWIN, VAIL & HUFTY

M. W. Baldwin* George Vail* George W. Hufty*

1842-45

BALDWIN & WHITNEY

M. W. Baldwin* Asa Whitney*

1846-53

M. W. BALDWIN

1854

M. W. BALDWIN & CO.

M. W. Baldwin* Matthew Baird*

1867

M. BAIRD & CO.

Matthew Baird* George Burnham Charles T. Parry*

1870

M. BAIRD & CO.

Matthew Baird* George Burnham Charles T. Parry*
Edward H. Williams* William P. Henszey Edward Longstreth

1873

BURNHAM, PARRY, WILLIAMS & CO.

George Burnham Charles T. Parry* Edward H. Williams*
William P. Henszey Edward Longstreth John H. Converse

1886

BURNHAM, PARRY, WILLIAMS & CO.

George Burnham Charles T. Parry* Edward H. Williams*
William P. Henszey John H. Converse William C. Stroud*
William H. Morrow* William L. Austin

1891

BURNHAM, WILLIAMS & CO.

George Burnham Edward H. Williams* William P. Henszey
John H. Converse William C. Stroud* William L. Austin

1896

BURNHAM, WILLIAMS & CO.

George Burnham Edward H. Williams* William P. Henszey
John H. Converse William L. Austin Samuel M. Vauclain
Alba B. Johnson George Burnham, Jr.

1901

BURNHAM, WILLIAMS & CO.

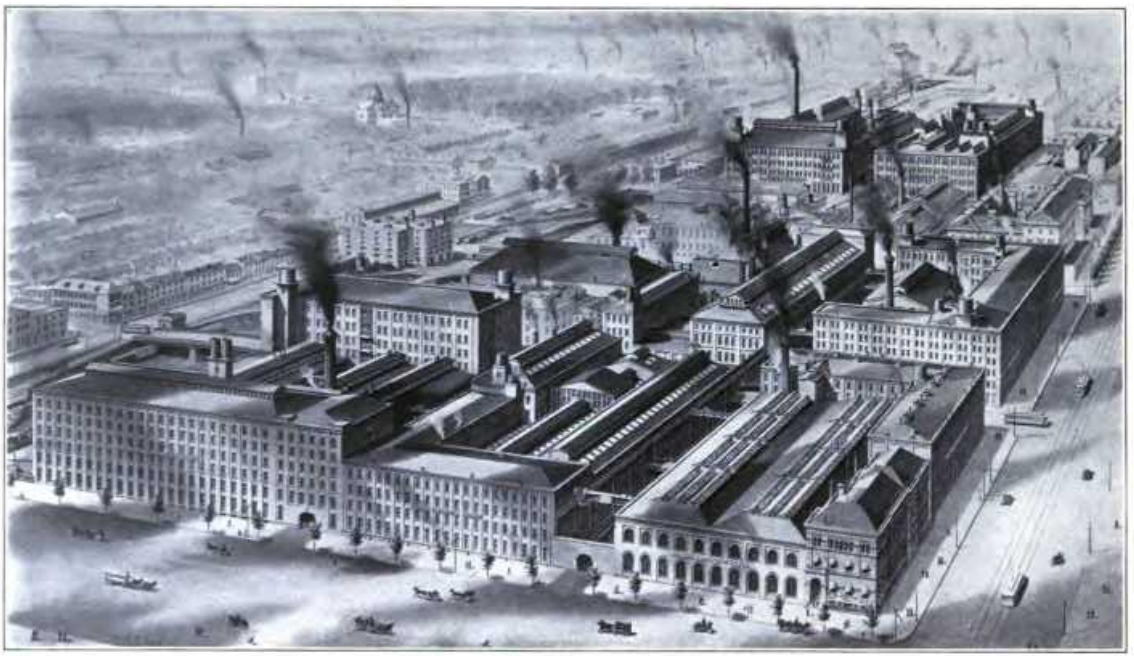
George Burnham William P. Henszey John H. Converse
William L. Austin Samuel M. Vauclain Alba B. Johnson
George Burnham, Jr.

1907

BURNHAM, WILLIAMS & CO.

George Burnham William P. Henszey John H. Converse
William L. Austin Samuel M. Vauclain Alba B. Johnson

*Now deceased



BIRD'S EYE VIEW OF WORKS

The Baldwin Locomotive Works

THESE Works occupy about sixteen acres in the heart of Philadelphia and one hundred and eighty-four acres at Eddystone, on the Delaware River, twelve miles below the city. The offices and principal machine shops are situated in the rectangle bounded on the north by Spring Garden Street, on the east by Broad Street, on the south by the Philadelphia and Reading Railway Subway and on the west by Eighteenth Street. Finishing, testing and repair shops are also located on the line of the Philadelphia and Reading Railway at Twenty-Sixth to Twenty-Eighth Streets.

The Works dates its origin from the inception of steam railroads in America. Called into existence by the early requirements of the railroad interests of the country, it has grown with their growth and kept pace with their progress. It has reflected in its career the successive stages of American railroad practice, and has itself contributed largely to the development of the locomotive as it exists to-day. A history of the Baldwin Locomotive Works, therefore, is in a great measure, a record of the progress of locomotive engineering in this country, and as such cannot fail to be of interest to those who are concerned in this important element of our material progress.

MATTHIAS W. BALDWIN, the founder of the establishment, learned the trade of a jeweler, and entered the service of Fletcher & Gardiner, Jewelers and Silversmiths, Philadelphia, in 1817. Two years later he opened a small shop, in the same line of business, on his own account. The demand for articles of this character falling off, however, he formed a partnership, in 1825, with David Mason, a machinist, in the manufacture of book-binders' tools and cylinders for calico printing. Their shop was in a small alley which runs north from Walnut Street, above Fourth. They afterwards removed to Minor Street, below Sixth. The business was so successful that steam power became necessary in carrying on their manufactures, and an engine was bought for the purpose. This proving unsatisfactory, Mr. Baldwin decided to design and construct one which should be specially

adapted to the requirements of his shop. One of these requirements was that it should occupy the least possible space, and this was met by the construction of an upright engine on a novel and ingenious plan. On a bed-plate about five feet square an upright cylinder was placed; the piston rod connected to a cross-bar having two legs, turned downward, and sliding in grooves on the sides of the cylinder, which thus formed the guides. To the sides of these legs, at their lower ends, was connected by pivots an inverted U-shaped frame, prolonged at the arch into a single rod, which took hold of the crank of a fly wheel carried by upright standards on the bed-plate. It will be seen that the length of the ordinary separate guide-bars was thus saved, and the whole engine was brought within the smallest possible compass. The design of the machine was not only unique, but its workmanship was so excellent, and its efficiency so great, as readily to procure for Mr. Baldwin orders for additional stationary engines. His attention was thus turned to steam engineering, and the way was prepared for his grappling with the problem of the locomotive when the time should arrive.

MR. BALDWIN'S FIRST ENGINE

This original stationary engine, constructed prior to 1830, is still in good order and carefully preserved at the Works. It has successively supplied the power in six different departments as they have been opened, from time to time, in the growth of the business.

The manufacture of stationary steam engines thus took a prominent place in the establishment, and Mr. Mason shortly afterward withdrew from the partnership.

In 1829-30 the use of steam as a motive power on railroads had begun to engage the attention of American engineers. A few locomotives had been imported from England, and one (which, however, was not successful) had been constructed at the West Point Foundry, in New York City. To gratify the

public interest in the new motor, Mr. Franklin Peale, then proprietor of the Philadelphia Museum, applied to Mr. Baldwin to construct a miniature locomotive for exhibition in his establishment. With the aid only of the imperfect published descriptions and sketches of the locomotives which had taken part in the Rainhill competition in England, Mr. Baldwin undertook the work, and on the 25th of April, 1831, the miniature locomotive was put in motion on a circular track made of pine boards covered with hoop iron, in the rooms of the Museum. Two small cars, containing seats for four passengers, were attached to it, and the novel spectacle attracted crowds of admiring spectators. Both anthracite and pine-knot coal were used as fuel, and the exhaust steam was discharged into the chimney, thus utilizing it to increase the draught.

The success of the model was such that, in the same year, Mr. Baldwin received an order for a locomotive from the Philadelphia, Germantown and Norristown Railroad Company, whose short line of six miles to Germantown was operated by horse power. The Camden and Amboy Railroad Company had shortly before imported a locomotive from England, which was stored in a shed at Bordentown. It had not yet been put together; but Mr. Baldwin, in company with his friend, Mr. Peale, visited the spot, inspected the detached parts, and made a few memoranda of some of its principal dimensions. Guided by these figures and his experience with the Peale model, Mr. Baldwin commenced the task. The difficulties to be overcome in filling the order can hardly be appreciated at this day. There were few mechanics competent to do any part of the work on a locomotive. Suitable tools were with difficulty obtainable. Cylinders were bored by a chisel fixed in a block of wood and turned by hand. Blacksmiths able to weld a bar of iron exceeding one and one-quarter inches in thickness were few, or not to be had. It was necessary for Mr. Baldwin to do much of the work with his own hands, to educate the workmen who assisted him, and to improvise tools for the various processes.

The work was prosecuted, nevertheless, under all these difficulties, and the locomotive was fully completed, christened "Old Ironsides," and tried on the road, November 23, 1832.