



Smithsonian

National Museum of American History Kenneth E. Behring Center

Preliminary Guide to the Delaware and Hudson Railroad Engineering Drawings

NMAH.AC.1169

Vanessa Broussard Simmons

2025

Archives Center, National Museum of American History
P.O. Box 37012
Suite 1100, MRC 601
Washington, D.C. 20013-7012
Business Number: Phone: 202-633-3270
Fax Number: Fax: 202-786-2453
archivescenter@si.edu
<https://americanhistory.si.edu/archives>

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Collection Overview

Repository:	Archives Center, National Museum of American History
Title:	Delaware and Hudson Railroad Engineering Drawings
Date:	1900-1955, undated
Identifier:	NMAH.AC.1169
Creator:	Brosterman, Norman (Donor) Delaware and Hudson Railway Company (Creator) Muhlfeld, John E. (Creator) Nahem, Edward T. (Donor) Sasson, Maurice (Donor) Smith, Sanford (Donor)
Source:	National Museum of American History (U.S.). Division of Work and Industry (Collector)
Extent:	240 Cubic feet
Language:	English .
Summary:	Collection documents the design, manufacture, and use of equipment and parts built by the Delaware and Hudson Railroad Company (D&H RR) for its daily operations and consists primarily of 26,500 original ink drawings, blueprints, supporting documents, photographs, ledgers, and publications.

Administrative Information

Immediate Source of Acquisition

Collection donated to the Division of Transportation, National Museum of American History, by Norman Brosterman, Edward T. Nahem, Maurice Sasson, and Sanford L. Smith, in 1991.

Provenance

Transferred to the Archives Center from the Division of Work and Industry in 2009.

Related Materials

Archives Center, National Museum of American History

Warshaw Collection of Business Americana Subject Categories: Railroads, NMAH.AC.0060.S01.01

James A. Millholland Collection, NMAH.AC.0163

Western Union Telegraph Company Records, NMAH.AC.0205

Baldwin Locomotive Works Drawings, NMAH.AC.0353

Division of Transportation Railroad Reference Files, NMAH.AC.0523

Frank H. Waring Papers, 1912-1997, NMAH.AC.0895

Coxe Brothers Collection, NMAH.AC.1002
Division of Work and Industry Lantern Slide Collection, 1758-1945, NMAH.AC.1013
Baltimore and Ohio Railroad Records, NMAH.AC.1086
Delaware, Lackawanna, and Western Railroad Records, NMAH.AC.1074
Elmer Treloar Collection of Railroad Station Negatives, NMAH.AC.1078
Erie Railroad Collection, NMAH.AC.1082
Baugh & Sons Company Collection, 1903-1914, NMAH.AC.1098
Southwark Foundry and Machine Company Records, NMAH.AC.1107
Charles B. Chaney Jr. Railroad Photographic Collection, 1850-1947; 1972, undated, NMAH.AC.1167
Clayton M. Hall Collection of Railroad Photographs, 1936-1966, NMAH.AC.1168
Thomas Norrell Railroad Collection, NMAH.AC.1174
Railroad Station Historical Society Collection, NMAH.AC.1558
Division of Mechanical and Civil Engineering Bridges Reference Collection, NMAH.AC.1577

Processing Information

Collection is unprocessed.

Preferred Citation

Delaware and Hudson Railroad Engineering Drawings, 1900-1955, Archives Center, National Museum of American History.

Restrictions on Access

Collection is open for research but is stored off-site and special arrangements must be made to work with it. Contact the Archives Center for information at archivescenter@si.edu or 202-633-3270.

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Biographical / Historical

Early history of the Delaware and Hudson (D&H RR) Railway Company begins with the Delaware and Hudson Canal Company. Chartered in Northeastern Pennsylvania in 1823, the company realizes the importance of replacing the canal with a railroad operating in the Northeastern part of the United States. The Delaware and Hudson (D&H RR) Railway Company's first rail line ran between Carbondale, Pennsylvania, and New York, beginning in 1872. After numerous mergers and purchases, it became the Delaware and Hudson Company and later Delaware and Hudson Railway. It was purchased by Guilford Rail System in 1984 and by 1988 it declared bankruptcy. Its lines were purchased in 1991 by the Canadian Pacific Railway. It has been suggested by museum staff that during its most successful years, Delaware and Hudson was the inventor, manufacturer, and user of some of the most important innovations in steam locomotive design.

Scope and Contents

Series 1, Photographs, circa 1900-1955, undated

Consist of 8 x 10 black and white prints documenting railroad activities and equipment. Materials will be arranged in alphabetical order by subject.

Series 2, Indexing System, circa 1900-1955, undated

Comprises of ledgers, logs, file cards, and indexes. Materials will be arranged in four subseries: subseries 2.1, ledgers, subseries 2.2, logs, subseries 2.3, file cards, and subseries 2.4, indexes.

Subseries 2.1, Ledgers, circa 1900-1955, undated

Contain ten volumes measuring approximately 28x18x3. Ledgers relating to passenger cars include information about the types, costs, sizes, specifications, brakes, interior woods, lighting, heating, window sizes, paints, general condition, and repairs. Ledgers from the Motive Power Department consists of the drawing and pattern numbers for engine details. In addition, there are locomotive maintenance and inspection ledgers. More importantly, the drawing ledgers correspond to the original drawings and file cards serving as an alphabetical cross-referencing system.

Subseries 2.2, Logs, circa 1900-1955, undated

Subseries 2.3, File Cards, circa 1900-1955, undated

Subseries 2.4, Indexes, circa 1900-1955, undated

Series 3, Publications, circa 1900-1955, undated

Consist of materials used by the company as references relating to engineering and railroads. Materials will be arranged in four subseries: subseries 3.1, trade literature; subseries 3.2, periodicals; subseries 3.3, books; and subseries 3.4, American Railway Association.

Subseries 3.1, Trade Literature, undated

Subseries 3.2, Periodicals, circa 1900-1955, undated

Subseries 3.3, Books, circa 1900-1955, undated

Comprise of technical publications relating primarily to steam engineering some with fold out diagrams of locomotives.

Subseries 3.4, American Railway Association, circa 1900-1955

Contain published records of the organization including proceedings from the annual conventions, manuals, and books documenting its meetings, activities, and important decisions regarding railway operations, safety standards, and regulations for the railroad industry in the United States. Includes thirty issues of the proceedings of annual conferences.

Series 4: Drawings, circa 1880s-1955, undated

Materials comprise the largest portion of the collection and include approximately 26,500 ink drawings on vellum, cloth, or paper. The drawings were created during the first half of the twentieth century by the Delaware and Hudson Railroad Company (D&H) for the operations of its business. The company was self-sufficient and manufactured in-house, regardless of size or scale, everything needed for the entire railroad. The drawings document innovations in design and function and include the title, number, date, dimensions, and initials of the draftsman, designer, and supervisor with revisions noted.

The work of John Erhardt Muhlfeld, one of the Delaware and Hudson Railroad Company's most important designers, is found among these materials. Muhlfeld, during his time a well-known consulting engineer, designer, and authority on locomotive design was born on September 18, 1872 in Peru, Indiana to John Muhlfeld (1847-June 18, 1885) and Kunigunda Erhardt (1851-December 15, 1925). He attended Purdue University's School of Mechanical Engineering. Muhlfeld entered the railroad business as an apprentice eventually working for various American and foreign

companies including the Baltimore and Ohio Railroad; Kansas City Southern Railway; Wabash Railroad; Erie Railroad; Toledo and Ohio Central Railway; Chicago Southern Railroad; Carolina, Clinchfield & Ohio Railway (CC&O); Minneapolis & St. Louis Railway; Boston and Albany Railroad (B&A); Grand Trunk Railroad (Canada); and Itabira Railway (Brazil). In 1910, he entered in business for himself as a railroad consulting engineer maintaining offices in New York City at 25 Broad Street. During his career he surveyed railroad conditions and operations in England, France, Germany, Italy, Holland, Belgium, and other countries; collaborated with European engineers on the development and design of rolling stock and motive power; designed the first Mallet articulated type of locomotive in operation in the United States; developed powdered fuel burning for locomotives and stationary power plants; and created high-pressure freight locomotives for the Delaware and Hudson Railroad. Muhlfeld published numerous pamphlets, reports, studies, articles, and a book relating to the railroad industry. He was a member of several organizations including the American Society of Mechanical Engineers, the American Institute of Electrical Engineers, the American Railway Association, the Society of American Military Engineers, and the American Railway Master Mechanics Association. John Erhardt Muhlfeld died on June 19, 1941, of a heart attack in New York, New York at the age of sixty-nine.

The drawings were maintained in the groups created by the Delaware and Hudson Railroad Company (D&H RR): subseries 4.1, m drawings; subseries 4.2, p drawings; subseries 4.3, r drawings; subseries 4.4, s drawings; subseries 4.5, t drawings; subseries 4.6, v drawings; subseries 4.7, w drawings; subseries 4.8, x drawings; subseries 4.9, y drawings; and subseries 4.10, z drawings. Sources: Obituary for John Muhlfeld, Scarsdale Inquirer, Volume XXIII, Number 22, 27 June 1941

Subseries 4.1, M Drawings, circa 1900-1955, undated

Include one hundred and eighty drawings documenting the painting and lettering on each type of railroad car. These drawings show the names, numbers, and emblems carefully drawn to scale illustrating the development of the graphic styles used by the Delaware and Hudson Railroad Company (D&H RR) throughout the decades. The drawings also document the different types of cars on the railroad including box, hopper, covered hopper, snowplows, Condola, wrecking, stock, and flat. In addition, the drawings were also used as stencils for the lettering on baggage, National Express, and American Railway Express. Materials measure 18x72 and are arranged by the drawing numbers. Subseries 4.2, P Drawings, circa 1900-1955, undated Consists of two hundred and seventy drawings on linen and vellum used to document the plans and elevations for entire locomotives, tenders, and cars. The illustrations show both proposed and preliminary designs for entire engines. Entire designs for these items are also included on the Z drawings. In addition, detailed plans, and elevations of early private cars, passenger coaches, and specialized cars for the Delaware and Hudson Railroad Company (D&H RR) are also found among these materials. Of particular interest are the drawings of detailed designs for seats, beds, toilets, kitchens, lounge furniture, and other interior aspects. The materials measure 12x48 and are arranged by the drawing number.

Subseries 4.3, R Drawings, circa 1900-1955, undated

Contain two hundred and ten drawings documenting the painting and lettering on each type of car like the M drawings. The drawings show the names, numbers, and emblems carefully drawn to scale illustrating the development of the graphic styles used by the Delaware and Hudson Railroad Company (D&H RR) throughout the decades. These drawings also document the different types of cars on the railroad including box, hopper, covered hopper, snowplows, Condola, wrecking, stock, and flat. In addition, the drawings were also used for the actual stencils for the lettering on baggage, National Express, and American Railway Express. Materials measure 18x48 and are arranged by the drawing numbers.

Subseries 4.4, S Drawings, circa 1880s-1955, undated

Comprises of the smallest drawings used primarily for machined parts for individual engines and cars. This group of 18,250 also includes over one thousand drawings of locomotives, cars, interiors, tools, flags, and lights used by the Delaware and Hudson Railroad Company (D&H RR). In addition, there are diagram and data sheets dating before World War I used as an inventory of every locomotive and car owned by the railroad. The locomotives were either manufactured by the Delaware and Hudson Railroad Company (D&H RR) or purchased from other companies. Materials measure 9x13 and are arranged by the drawing numbers.

Subseries 4.5, T Drawings, circa 1900-1955, undated

Consist of five thousand and five hundred drawings generally used to illustrate technical information relating to the design and construction of mechanical systems. Many of the drawings document complex machine parts. In addition, this format was extensively used for charts of numerical information on widely diverse subjects. Materials measure 12x18 and are arranged by the drawing numbers.

Subseries 4.6, V Drawings, circa 1900-1955, undated

Include two hundred and fifty drawings documenting the technical and mechanical information used in the construction of various parts of the trains and their interiors. There are also drawings illustrating the floor plans and layouts of the various machine shops where the train parts were made, and the locomotives and cars were erected. Materials measure 18x24 and are arranged by the drawing numbers.

Subseries 4.7, W Drawings, circa 1900-1955, undated

Contain three hundred drawings on linen and vellum documenting entire plans and elevations for locomotives, tenders, and cars. There are detailed plans and elevations for many of the Delaware and Hudson Railroad Company (D&H RR) early private cars, passenger coaches, and specialized cars. Like the P drawings these images illustrate detailed designs for seats, beds, toilets, kitchens, lounge furniture, and other interior aspects. Materials measure 12x36 and are arranged by the drawing numbers.

Subseries 4.8, X Drawings, circa 1900-1955, undated

Include eight hundred and eighty drawings documenting the construction of trucks for passenger cars, boiler sections, engine trucks, cylinder sections, locomotive front-end arrangements, driving and side rods, locomotive cab arrangements, locomotive smoke and steam deflectors, coal breaker clearances for loading coal cars, coal transferring machines, wood vestibule for passenger cars, buffet desk for private car, etc. Materials measure 24x36 and are arranged by the drawing numbers.

Subseries 4.9, Y Drawings, circa 1900-1955, undated

Contain two hundred and ninety-five drawings used for large scale descriptions of cars and their parts including engine cabs and airbrake assemblies. Materials measure 36x48 and are arranged by the drawing number.

Subseries 4.10, Z Drawings and Erecting Cards, circa 1900-1955, undated

Consist of two hundred and sixty drawings used by the engineers of the Delaware and Hudson Railroad Company (D&H RR) for the presentation of entire locomotives and cars. In many cases the drawings include dimensions and numbers to other drawings required to build a particular engine. Included in this group are the locomotive erecting cards. The erecting cards document the entire locomotive from the side showing both the machinery visible in elevation and the workings within. Materials measure 36x72, 36x90, and 36x120. Materials are arranged first by size and then by number. The largest size, 36x120, are stored in tubes.

Series 5: Blueprints, circa 1900-1955, undated

Include materials created from the drawings and serves as a duplicate of the original. In some cases, it may be the only existing copy of a particular subject. Materials are arranged by number.

Series 6, Ozalid Prints, circa 1900-1955, undated

Contain cloth prints created by the American Locomotive Company (ALC) and supplied to the Delaware and Hudson Railroad Company (D&H RR) for servicing equipment purchased from ALC. Materials are large and require assistance when handling.

Arrangement

Arrangement:

Series 1, Photographs, circa 1900-1955, undated

Series 2, Indexing System, circa 1900-1955, undated

Subseries 2.1, Ledgers, circa 1900-1955, undated
Subseries 2.2, Logs, circa 1900-1955, undated
Subseries 2.3, File Cards, circa 1900-1955, undated
Subseries 2.4, Indexes, circa 1900-1955, undated
Series 3, Publications, circa 1900-1955, undated
Subseries 3.1, Periodicals, circa 1900-1955, undated
Subseries 3.2, Books, circa 1900-1955, undated
Subseries 3.3, Proceedings of the American Railway Association, circa 1906-1918
Series 4: Drawings, circa 1880s-1955, undated
Subseries 4.1, M Drawings, circa 1880s-1955, undated
Subseries 4.2, P Drawings, circa 1880s-1955, undated
Subseries 4.3, R Drawings, circa 1880s-1955, undated
Subseries 4.4, S Drawings, circa 1880s-1955, undated
Subseries 4.5, T Drawings, circa 1880s-1955, undated
Subseries 4.6, V Drawings, circa 1880s-1955, undated
Subseries 4.7, W Drawings, circa 1880s-1955, undated
Subseries 4.8, X Drawings, circa 1880s-1955, undated
Subseries 4.9, Y Drawings, circa 1880s-1955, undated
Subseries 4.10, Z Drawings, circa 1880s-1955, undated
Series 5: Blueprints, 1880s-1955, undated
Series 6, Ozalid Prints, undated

Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:

Subjects:

- Locomotives
- Locomotives -- 19th century
- Locomotives -- Design and construction
- Locomotives -- Drawings
- Publications
- Railroad companies
- Railroad equipment industry
- Railroad equipment industry
- Railroad passenger cars
- Railroads -- 20th century -- United States
- Transportation

Types of Materials:

- Blueprints
- Design drawings

Engineering drawings
Ledgers (account books)
Periodicals
Photographs -- 20th century

Names:

National Museum of American History (U.S.). Division of Work and Industry

Container Listing

American Locomotive Company (ALCO, ALCo or Alco), undated

Box 1 ALCO locomotive details, blueprints, undated

Box 2 ALCO blueprints, undated

Box 3 ALCO blueprints, undated

Box 4 ALCO blueprints, undated

Box 5 ALCO blueprints, undated

Box 6 ALCO blueprints, undated

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Box 7 General Motors blueprints, undated

Box 8 American Car Foundry blueprints, undated

Box 9 General Electric Company blueprints, undated

Box 10 General Electric Company blueprints, undated

Box 11 Photographs, undated

Box 12 DL7W, Magor Car Corporation and Thrall Car Manufacturing Company, blueprints and papers, undated

Box 13 Pullman Company blueprints, undated

Box 14 Various companies, miscellaneous blueprints, undated

Box 15 Manual, maintenance trade literature, undated

Box 16 Trade literature, undated

Box 17 File papers, undated

Box 18 Diesel tonnage operation studies, 1947-1952

Box 19	Railroad car blueprints and miscellaneous file material, undated
Box 20	Railroad trade literature, scrapbook and interoffice correspondence, undated
Box 21	DH system chart; various yard and track plans; Colonie, New York yard, undated Notes: Various yad and track plans include: Carbondale; Fort Edward; Mechanicville; North Creek; Oneonta (Paint Shop); Rouses Point; Whitehall; and Wilkesbarre. The Colonie, New York Yard materials include: Yard and Track Plans; Car Department Office and Freight Car Shop; Power House; Diesel Fueling and Diesel Sanding Stations; and Diesel Shop (Crew Dispatch Office, Office Section, and Toilet and Locker Rooms).
Box 22	Equipment for Hopper Car, undated
Box 23	Colonie Diesel Shop, undated Notes: Materials include: Battery Shop, Paint Shop, Daily Shopping Schedules, Wheel Truing Machine; Monthly Shopping Schedules; Cleaning Shed; Air Brake Room; Filter Cleaning Room; and Piston Cleaning Tank.
Box 24	Equipment defects, dieselization, undated
Box 26	Proceedings of the American Railway Master Mechanics Association, 1913-1918
Box 27	Proceedings of Master Car Builders Association, undated
Box 28	Proceedings of the American Railway Master Mechanics Association, 1906-1912
Box 29	Drawings and patterns books, undated
Box 30	Drawings and pattern books, undated
Box 31	American Railroad Association Standards (obsolete), undated
Box 33	Books and papers, undated
Box 34	Blueprints, undated
Item Loose Drawings	Loose drawings
Box 1 (Flat Drawings)	Drawings, undated
Roll 1 (Rolled Drawings)	Drawings, undated

Roll 2 (Rolled Drawings)	Drawings, undated
Roll 3 (Rolled Drawings)	Drawings, undated
Roll 4 (Rolled Drawings)	Drawings, undated
Roll 5 (Rolled Drawings)	Drawings, undated
Roll 6 (Rolled Drawings)	Drawings, undated
Roll 7 (Rolled Drawings)	Drawings, undated
Roll 8 (Rolled Drawings)	Drawings, undated
Cabinet 216801	Unprocessed materials
Cabinet 223805	Unprocessed materials
Cabinet 300022	Unprocessed materials

P Drawings, Railroad Vehicles

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R Drawings, Railroad Sanding

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S drawings, Locomotives, Railroad Cars, and Other Rolling Stock

Box S1	S drawings, 1000-1499, undated
Box S2	S drawings, 1550-1999, undated
Box S3	S drawings, 2000-2499, undated
Box S4	S drawings, 2500-2999, undated
Box S5	S drawings, 3000-3499, undated
Box S6	S drawings, 3500-3999, undated
Box S7	S drawings, photographs, undated
Box S8	S drawings, photographs, undated
Box S9	S drawings, photographs, undated
Box S10	S drawings, photographs, undated
Box S11	S drawings, 4000-4499, undated
Box S12	S drawings, 4500-4999, undated
Box S13	S drawings, 5000-5499, undated
Box S14	S drawings, 5500-5999, undated
Box S15	S drawings, 6000-6499, undated
Box S16	S drawings, 6500-6999, undated
Box S17	S drawings, 7000-7499, undated
Box S18	S drawings, 7500-7999, undated
Box S19	S drawings, 8000-8699, undated
Box S20	S drawings, 9700-9999, undated
Box S21	S drawings, 10000-10999, undated
Box S22	S drawings, 11000-11999, undated

Box S23	S drawings, 12000-12999, undated
Box S24	S drawings, 13000-13999, undated
Box S25	S drawings, 14000-14999, undated
Box S26	S drawings, 15000-15999, undated
Box S27	S drawings, 16000-16999, undated
Box S28	S drawings, 17000-17999, undated
Box S29	S drawings, 18000-18999, undated
Box S30	S drawings, 19000-19999, undated
	S drawings, 20000-24999 (no drawings for this number range)
Box S31	S drawings, 25000-25999, undated
Box S32	S drawings, 26000-26999, undated
Box S33	S drawings, 27000-27999, undated
Box S34	S drawings, 28000-28999, undated
Box S35	S drawings, 29000-29999, undated
Box S36	S drawings, 30000-30999, undated
Box S37	S drawings, 31000-33499, undated
Box S38	S drawings, 32500-33599, undated
Box S39	S drawings, 33600-34499, undated
Box S40	S drawings, 34500-35999, undated
Box S41	S drawings, 36000-36999, undated
Box S42	S drawings, 37000-38499, undated
Box S43	S drawings, 38500-39299, undated
Box S44	S drawings, 385000-39999, undated
Box S45	S drawings, 40000-50000, undated

Box 32 S drawings, undated

Box 25 S drawings and loose volume, undated

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T Drawings, Technical

Scope and Contents: Drawings are approximately 11.25 in x 18.25 in.
There are no folders for T-78 to T114 or T145-T149.

HU216.894 (Folders 1-7)

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W Drawings, Railroad Sanding

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Y drawings, Railroad Sanding

Folder 1	Drawings, 35008-36811, 1931-1937
Folder 2	Drawings, 35398, 35553, 17686, 1916-1934
Folder 3	Drawings, 38004-38465, 1940
Folder 4	Drawings, 37995-38465, 1940-1941
Folder 5	Drawings, 402206-41046, 1946-1953
Folder 6	Drawings, 39769-40996, 1944-1952
Folder 7	Drawings, 39769-39954, 1945-1946

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Rolloed Drawings

Roll 1	Rolloed drawings (1)
Roll 2	Rolloed drawings (2)
Roll 3	Rolloed drawings (3)
Roll 4	Rolloed drawings (4)
Roll 5	Rolloed drawings (5)
Roll 6	Rolloed drawings (6)
Roll 7	Rolloed drawings (7)

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Roll 8	Rolloed drawings (8)
Volume 1	Weights and castings, 1933-1940 1 Volume
Volume 2	Engine pattern book, undated
Volume 3	Stationary inspection and boiler record ledger, 1900-1940s
Volume 4	Locomotive inspection record, 1940s
Volume 5	Locomotive inspection record, 1950s
Volume 6	Clasp brake parts lists, undated 3 Copies
Volume 7	Motive power department and stationary boiler inspection ledger, 1900-1920s
Volume 8	Shell [USA, Incorporated] road maps, 1950s?
Volume 9	Maintenance of equipment ledger, 1944-1949
Volume 10	Railroad equipment record, 1904