MS 60 James Howe Papers

BIOGRAPHICAL INFORMATION

James F. Howe was born in Manchester, NH on January 28, 1878. He was educated in the public schools of Manchester and Chicopee, Mass. He graduated from WPI in 1899 with a BS in Mechanical Engineering and later, in 1906 he received an advanced degree in Mechanical Engineering.

After graduation in 1899, he entered the engineering department of the American Steel and Wire Company and in a few years became the superintendent of the wire Rope Department. In 1906, he became chief engineer and held this position until his retirement in 1945. He was recognized as the foremost authority of wire ropes for suspension bridges and a method of measuring bridge ropes and cables with great accuracy. Howe died in 1964.

SCOPE AND CONTENT

This collection consists of Howe's personal papers ranging in date from his college years around the late 1890s to the mid 1940s.

Boxes 1 through 5 contain papers and engineering reports written by Howe from the mid 1920s to the late 1940s. Most of these papers are about work done by Howe for the American Steel and Wire Company.

Boxes 6 through 8 contain Howe's school notebooks kept during his undergraduate years at WPI and includes a hard copy of his undergraduate thesis.

Boxes 9 through 13 contain Papers, publications, and typed manuscripts written by Howe.

Boxes 14 and 15 contain 7 patents submitted by Howe, various personal copies of engineering-related publications, several American Steel and Wire handbooks and catalogues, and two measuring tools.

<table>
<thead>
<tr>
<th>Container List</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Container</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Folder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

None

Series I: American Steel and Wire Company

MS 60_01

Personal Papers

<table>
<thead>
<tr>
<th>Container List</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Container</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Folder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Box 01 Folder 01 1937 Bronx Whitestone Suspension Bridge

Box 01 Folder 02 1941, 1945 Catalogs
<table>
<thead>
<tr>
<th>Container</th>
<th>Folder</th>
<th>Date</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box 02</td>
<td>Folder 08</td>
<td>n.d.</td>
<td>Bridge Engineering, Book 1</td>
</tr>
<tr>
<td>Box 03</td>
<td>Folder 01</td>
<td>n.d.</td>
<td>Bridge Engineering, Book 2</td>
</tr>
<tr>
<td>Box 03</td>
<td>Folder 02</td>
<td>n.d.</td>
<td>Bridge Engineering, Book 3</td>
</tr>
<tr>
<td>Box 03</td>
<td>Folder 03</td>
<td>n.d.</td>
<td>Bridge Engineering, Book 4</td>
</tr>
<tr>
<td>Box 03</td>
<td>Folder 04</td>
<td>n.d.</td>
<td>Bridge Engineering, Book 5</td>
</tr>
<tr>
<td>Box 04</td>
<td>Folder 01</td>
<td>n.d.</td>
<td>Bridge Engineering, Book 6</td>
</tr>
<tr>
<td>Box 04</td>
<td>Folder 02</td>
<td>1931</td>
<td>Characteristics of 8x19 traction steel elevator rope</td>
</tr>
<tr>
<td>Box 04</td>
<td>Folder 03</td>
<td>n.d.</td>
<td>Elevator rope--Misc.</td>
</tr>
<tr>
<td>Box 04</td>
<td>Folder 04</td>
<td>n.d.</td>
<td>Elevator rope--tests for New York Telephone Co.</td>
</tr>
<tr>
<td>Box 04</td>
<td>Folder 05</td>
<td>n.d.</td>
<td>Elevator Ropes Book 1</td>
</tr>
</tbody>
</table>
Box 04  Folder 06  n.d.  Elevator Ropes Book 2
Box 05  Folder 01  1927  Galvanized plow-steel bridge cable, report of tests
Box 05  Folder 02  1927  Tests on galvanized plow steel bridge cable
Box 05  Folder 03  n.d.  Installation and care of hoisting ropes
Box 05  Folder 04  n.d.  Locked coil cable
Box 05  Folder 05  n.d.  Logging with wire ropes
Box 05  Folder 06  n.d.  Physical properties of wire
Box 05  Folder 07  n.d.  Proposed plan for production of wire ropes
Box 05  Folder 08  1943  Report to Office of Scientific Research
Box 06  Folder 01  1943  Wire rope report, no. 1752--Panama Canal
Box 06  Folder 02  1932  Wire rope slings

**Series III: Notebooks**

<table>
<thead>
<tr>
<th>Container</th>
<th>Folder</th>
<th>Date</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box 06</td>
<td>Folder 03</td>
<td>1911-1912</td>
<td>Notebook, 1911-1912</td>
</tr>
<tr>
<td>Box 06</td>
<td>Folder 04</td>
<td>1913</td>
<td>Notebook, 1913</td>
</tr>
<tr>
<td>Box 06</td>
<td>Folder 05</td>
<td>1940</td>
<td>Notebook, 1940</td>
</tr>
<tr>
<td>Box 06</td>
<td>Folder 06</td>
<td>1950-1954</td>
<td>Notebooks - index to drawings</td>
</tr>
<tr>
<td>Box 06</td>
<td>Folder 07</td>
<td>1929</td>
<td>Notebook - Bridges</td>
</tr>
<tr>
<td>Box 06</td>
<td>Folder 08</td>
<td>1912</td>
<td>Notebook - sketches of machinery</td>
</tr>
<tr>
<td>Box 06</td>
<td>Folder 09</td>
<td>1896</td>
<td>WPI Notebook: Chemistry</td>
</tr>
<tr>
<td>Box 07</td>
<td>Folder 01</td>
<td>1904</td>
<td>Notebook - 1904</td>
</tr>
<tr>
<td>Box 08</td>
<td>Folder 01</td>
<td>n.d.</td>
<td>Descriptive Geometry</td>
</tr>
<tr>
<td>Box 08</td>
<td>Folder 02</td>
<td>1896</td>
<td>Lab notes--Electrical Engineering</td>
</tr>
<tr>
<td>Box 08</td>
<td>Folder 03</td>
<td>1898</td>
<td>Reports--Mechanical Engineering</td>
</tr>
<tr>
<td>Box 08</td>
<td>Folder 04</td>
<td>1898</td>
<td>Reports--Electrical Engineering</td>
</tr>
<tr>
<td>Box 08</td>
<td>Folder 05</td>
<td>1900</td>
<td>Notes on contracts</td>
</tr>
<tr>
<td>Box 08</td>
<td>Folder 06</td>
<td>1899</td>
<td>Engineering problems in thermodynamics and hydraulics</td>
</tr>
<tr>
<td>Box 08</td>
<td>Folder 07</td>
<td>1899</td>
<td>Undergraduate thesis: A new method for determining cylinder condensation</td>
</tr>
</tbody>
</table>

by Howe and Forrest William Cole
### Series IV: Papers, Publications, and Articles

#### Container List

<table>
<thead>
<tr>
<th>Container</th>
<th>Folder</th>
<th>Date</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box 09</td>
<td>Folder 01</td>
<td>1939</td>
<td>Indexes</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 02</td>
<td>n.d.</td>
<td>Address to Scranton Engineer's Club</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 03</td>
<td>1938</td>
<td>Advantages of performed wire rope for oil field operations</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 04</td>
<td>n.d.</td>
<td>Ballast unloaders</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 05</td>
<td>June, 1907</td>
<td>Bending stresses in wire rope. Machinery Age</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 06</td>
<td>Oct. 1921</td>
<td>Cableways</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 07</td>
<td>July, 1909</td>
<td>Cableways and locks at Gatun</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 08</td>
<td>1931</td>
<td>Characteristics of 8x19 traction steel elevator rope vs. other constructions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><em>includes American Steel and Wire Sketchbook no. 1441 sept. 19, 1931</em></td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 09</td>
<td>Aug. 27, 1936</td>
<td>Characteristics of wire rope how this commodity may be applied and utilized to the fullest extent</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 10</td>
<td>1925</td>
<td>Cleveland Union Terminals Company tests on catenary material typed manuscript</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 11</td>
<td>n.d.</td>
<td>Combination steel and copper cables typed manuscript</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 12</td>
<td>April-August 1924</td>
<td>Combined steel and copper stranded cable American Steel and Wire Company electrical tests, 4 parts.</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 13</td>
<td>1924</td>
<td>Comparison of steel core cable with similar cable of copper typed manuscript</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 14</td>
<td>Dec. 1918</td>
<td>Determination of stresses in wire rope as applied to modern engineering problems typed manuscript. published: ASME for presentation at ASME annual meeting, Dec. 1918</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 15</td>
<td>1906</td>
<td>The determination of bending stresses in wire rope. WPI thesis</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 16</td>
<td>Feb. 21, 1925</td>
<td>A discussion of present day wire rope problems prepared for association of Iron and Steel Electrical Engineers, Feb. 21, 1925. typed manuscript. Published: Iron and Steel Engineer, Aug. 1925. v.2 no.8</td>
</tr>
<tr>
<td>Box 09</td>
<td>Folder 17</td>
<td>Dec., 1921</td>
<td>A discussion of wire rope as applied to mining operations presented to American Society of Mining Engineers, annual meeting, New York, Dec., 1921:</td>
</tr>
</tbody>
</table>
Box 10  Folder 06  1915  Panama Canal history and completion

Box 10  Folder 07  June 16, 1928  Paper delivered before the Southern Appalachian Coal Operators' Association
delivered at the Atkin Hotel, Knoxville, Tenn. June 16, 1928

Box 10  Folder 08  1921  Passenger Cable Incline

Box 10  Folder 09  n.d.  Photographs

Box 10  Folder 10  June 20, 1935  Points to be considered in selecting an elevator
Prepared for Ohio state convention, National Association of Power Engineers. Published

Box 10  Folder 11  Feb. 13, 1943  Practical applications of physics to mechanical problems
for the Eastern Association of Physics Teachers. handwritten manuscript

Box 10  Folder 12  1937  Performed wire rope: a factor in reducing equipment operating costs
Published: Excellay.

Box 10  Folder 13  1933  Removing the mystery from wire rope service
reprinting from Buildings and Building Management

Box 10  Folder 14  April, 1920  Reserve strength of elevator ropes
by W. Voigtlander

Box 10  Folder 15  1919  Rope machine types and characteristics
typed manuscript

Box 10  Folder 16  Dec. 1941  Rusting of elevator rope: Its beginnings, ramifications and prevention
typed manuscript

Box 10  Folder 17  Feb. - Mar. 1938  Selection of wire rope for elevators

Box 10  Folder 18  Feb. 4, 1934  Some phases of wire rope as applied to elevator maintenance
paper read before the Electrical League, Cleveland, Ohio. Typed manuscript

Box 10  Folder 19  March 17, 1924  Specifications for tests of electrical characteristics of large diameter transmission conductors
Typed manuscript

Box 10  Folder 20  Sept., 1905  Spiral gears
Typed manuscript

Box 10  Folder 21  July 1909  Steam shovels and their work on the Panama Canal
Typed manuscript

Box 10  Folder 22  10/6/1924 - 11/5/1924  Steel and copper cable tests
Typed manuscript

Box 10  Folder 23  n.d.  Steel making for wire rope
Typed manuscript

Box 10  Folder 24  1923  Strength of used elevator cables, by C.W. Willitts

Box 10  Folder 25  Aug. 12, 1936  Submarine barriers
Patent by James J Morrison and James F. Howe
<table>
<thead>
<tr>
<th>Box 10</th>
<th>Folder 26</th>
<th>1915, 1920</th>
<th>Suggestions for the care of wire rope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box 10</td>
<td>Folder 27</td>
<td>1941</td>
<td>A survey of wire rope usage in steel manufacture and defense requirements</td>
</tr>
<tr>
<td>Box 10</td>
<td>Folder 28</td>
<td>1923</td>
<td>Tests of double galvanized steel strand and iron wire for electrical transmission and distribution</td>
</tr>
<tr>
<td>Box 10</td>
<td>Folder 29</td>
<td>April, 1937</td>
<td>Tiger brand excellay wire rope as a factor in reducing road construction costs from Roads and Streets Magazine.</td>
</tr>
<tr>
<td>Box 10</td>
<td>Folder 30</td>
<td>Feb., 1922</td>
<td>Use of wire rope in mining operations</td>
</tr>
<tr>
<td>Box 10</td>
<td>Folder 31</td>
<td>June 28, 1909</td>
<td>Uses of wire rope on Panama Canal: wire report #306 includes photographs of Canal construction taken by Howe</td>
</tr>
<tr>
<td>Box 10</td>
<td>Folder 32</td>
<td>May 26-28 1920</td>
<td>V-Groove elevator drive, by W.S. Atkinson</td>
</tr>
<tr>
<td>Box 10</td>
<td>Folder 33</td>
<td>1939-1940</td>
<td>What do we know about the ocean and what lies hidden beneath the surface?</td>
</tr>
<tr>
<td>Box 11</td>
<td>Folder 01</td>
<td>June 1908</td>
<td>Wire rope paper read before Purchasing Agents, U.S. Steel and tatum country club</td>
</tr>
<tr>
<td>Box 11</td>
<td>Folder 02</td>
<td>Oct. 16 1935</td>
<td>Wire rope, by Howe and N. Carlson Presented at a meeting of the Boston Society of Civil Engineers, Oct. 16, 1935. Typed manuscript. Also published in Journal of BSCE, Jan., 1936 v.23 #1</td>
</tr>
<tr>
<td>Box 11</td>
<td>Folder 03</td>
<td>1920</td>
<td>Wire rope and its contribution to engineering</td>
</tr>
<tr>
<td>Box 11</td>
<td>Folder 04</td>
<td>1920</td>
<td>Wire rope and its relation to steel making Delivered before Iron and Steel Electrical Engineers Association Detroit. Typed manuscript</td>
</tr>
<tr>
<td>Box 11</td>
<td>Folder 05</td>
<td>1939</td>
<td>Wire rope as applied to excavating equipment</td>
</tr>
<tr>
<td>Box 11</td>
<td>Folder 06</td>
<td>Oct. 1939</td>
<td>Wire rope as applied to marine engineering</td>
</tr>
<tr>
<td>Box 11</td>
<td>Folder 07</td>
<td>1913</td>
<td>Wire rope characteristics and how to overcome difficulties in selling.</td>
</tr>
<tr>
<td>Box 11</td>
<td>Folder 08</td>
<td>April 23, 1932</td>
<td>Wire rope for elevators Paper read before Chicago Council of Engineers. Typed manuscript</td>
</tr>
<tr>
<td>Box 11</td>
<td>Folder 09</td>
<td>July 1935</td>
<td>Wire rope for slope or incline haulage reprinted from July, 1935 Mining Congress Journal</td>
</tr>
<tr>
<td>Box 11</td>
<td>Folder 10</td>
<td>Oct. 16, 1939</td>
<td>Wire rope guys on modern equipment reprinted from Steel.</td>
</tr>
</tbody>
</table>
Box 11  Folder 11  n.d.  Wire rope hooks  
Typed manuscript
Box 11  Folder 12  1912  Wire rope in action  
Typed manuscript
Box 11  Folder 13  1921  Wire rope in elevator service  
Typed manuscript
Box 11  Folder 14  1929  Wire rope in elevator service: past, present and future  
Typed manuscript
Box 11  Folder 15  Feb. 1921  Wire rope in mining operations  
Typed manuscript
Box 11  Folder 16  1918  Wire rope lecture (Salesman's course)  
Typed manuscript
Box 11  Folder 17  Oct. 13, 1914  Wire rope manufacture and application to buildings  
Papers read before Chicago Building Managers' Association. Typed manuscript
Box 11  Folder 18  Oct., 1930  Wire rope problems confronting elevator designers  
Paper read before Elevator Manufacturers' Association of the U.S., Chicago, Ill. published
Box 11  Folder 19  1912  Wire rope properties and uses (summary)  
Typed manuscript
Box 11  Folder 20  October 10, 1922  Wire rope report: Otis Elevator Co.  
Typed manuscript
Box 11  Folder 21  n.d.  Wire Rope - Chapter 1  
Typed manuscript of book on wire rope
Box 11  Folder 22  n.d.  Wire Rope - Chapter 2  
Typed manuscript of book on wire rope
Box 11  Folder 23  n.d.  Wire Rope - Chapters 3-7  
Typed manuscript of book on wire rope
Box 12  Folder 01  n.d.  Wire Rope - Chapters 8-20  
Typed manuscript of book on wire rope
Box 12  Folder 02  n.d.  Wire Rope - Chapters 21-37  
Typed manuscript of book on wire rope
Box 12  Folder 03  n.d.  Wire Rope - Chapters 38-43  
Typed manuscript of book on wire rope
Box 12  Folder 04  n.d.  Wire Rope - Chapters 44-51  
Typed manuscript of book on wire rope
Box 12  Folder 05  n.d.  Wire Rope - Chapter 52  
Typed manuscript of book on wire rope
Series V: Miscellaneous Personal Items

Container List

<table>
<thead>
<tr>
<th>Container</th>
<th>Folder</th>
<th>Date</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Box 14</td>
<td>Folder 01</td>
<td>Oct. 6, 1921</td>
<td>Patent - Suspension bridge cable</td>
</tr>
<tr>
<td>Box 14</td>
<td>Folder 02</td>
<td>Jan. 22, 1925</td>
<td>Patent - Cable</td>
</tr>
<tr>
<td>Box 14</td>
<td>Folder 03</td>
<td>Jan. 25, 1929</td>
<td>Patent - Wire rope and cable</td>
</tr>
<tr>
<td>Box 14</td>
<td>Folder 04</td>
<td>May 27, 1931</td>
<td>Patent - Wire rope thimble</td>
</tr>
<tr>
<td>Box 14</td>
<td>Folder 05</td>
<td>Nov. 14, 1932</td>
<td>Patent - Tension cable and method of applying same</td>
</tr>
<tr>
<td>Box 14</td>
<td>Folder 06</td>
<td>Feb 9, 1933</td>
<td>Patent - Cable anchorage and its installation</td>
</tr>
<tr>
<td>Box 14</td>
<td>Folder 07</td>
<td>Oct. 26, 1936</td>
<td>Patent - Bridge cable strand</td>
</tr>
<tr>
<td>Box 14</td>
<td>Folder 08</td>
<td>November 1930</td>
<td>Publication - Wire Engineering vol. 1, #1</td>
</tr>
<tr>
<td>Box 14</td>
<td>Folder 09</td>
<td>December 1930</td>
<td>Publication - Wire Engineering vol. 1, #2</td>
</tr>
<tr>
<td>Box 14</td>
<td>Folder 10</td>
<td>January 1931</td>
<td>Publication - Wire Engineering vol. 1, #3</td>
</tr>
<tr>
<td>Box 14</td>
<td>Folder 11</td>
<td>February 1931</td>
<td>Publication - Wire Engineering vol. 1, #4</td>
</tr>
<tr>
<td>Box 14</td>
<td>Folder 12</td>
<td>March 1931</td>
<td>Publication - Wire Engineering vol. 1, #5</td>
</tr>
</tbody>
</table>

MS 60_05  Personal Papers