

∞ The Ward M. Canaday Center ∞
for Special Collections
The University of Toledo

Finding Aid

➤ **H.O and H.W. Hem Toledo Scale Papers, 1910s-1960s** ◀

MSS-176

Size: 5 linear feet

Provenance: Gift of Mr. James Meredith, Toledo, OH

Access: open

Collection Summary: Contains blueprints and drawings, photographs, publications, and miscellaneous material collected and saved by the Hems during their careers at Toledo Scale.

Subjects: [Business and Commerce](#)

Related Collections: The Toledo Scale Collection (MSS-153) and Toledo's Attic

Processing Note:

Copyright: The literary rights to this collection are assumed to rest with the person(s) responsible for the production of the particular items within the collection, or with their heirs or assigns. Researchers bear full legal responsibility for the acquisition to publish from any part of said collection per *Title 17, United States Code*. The **Ward M. Canaday Center for Special Collections** may reserve the right to intervene as intermediary at its own discretion.

Completed by: Deborah Marinski, August 2003; last updated: July, 2014

**H.O and H.W. Hem Toledo Scale
Papers, 1910s-1960s**

Biographical Sketch

Halvor Olsen Hem was born August 14, 1863, in Saude, Norway, to Ole and Aste Hem. H.O. Hem was born into a family of engineers and mechanics, and before the age of fifteen had designed numerous mechanical devices including scales, steam engines, and sewing machines. In 1882, H.O. Hem came to the United States where he became an engineer with the H.N. Strait Manufacturing Company of Kansas City, Missouri. It was in 1890 when he became the chief engineer, superintendent and vice-president of the company. H.N. Strait Manufacturing Co. produced scales under the name Monarch for twelve years under H.O. Hem. In 1902 the company was sold to Fairbanks, Morse and Company where H.O. Hem created a complete line of scales. H.O. Hem remained there until 1915 when he became a consultant to the Toledo Scale Company, and in 1928 he became the chief engineer of Toledo Scale. Some of his developments in scales were in the area of heavy capacity, mechanical devices for World War I and II, wind tunnel measuring systems, and the automobile industry.

During his tenure as an engineer, H.O. Hem received various awards and honors. He received the John Price Wetherill medal in 1932 for his perfection of pendulum scales. In 1936 he received an honorary Doctor of Science degree from the University of Toledo. H.O. Hem was also part of many associations and organizations. One such group was the Yards and Terminals Committee 14 of the American Railway Engineering Association, which determined the rules and regulations for scales and their installation. He was also a member of the American Society of Civil Engineers, American Society of Mechanical Engineers, American Railway Engineering Association, and the National Scale Men's Association.

H.O. Hem retired from the Toledo Scale Company in 1947, but he still helped the company as a consultant. H.O. Hem was married twice, first to Lillian with whom he had two children, H. Warren and Verona, and second to Helen Vaughan. He died on November 11, 1952.

Halvor Warren Hem was born on September 25, 1892, to H. O. and Lillian Hem in Kansas City, Missouri. H.W. Hem followed in his fathers footsteps with his passion for creating scales and mechanical devices. He held over 100 patents by the time he was sixteen years old. He also came to the Toledo Scale Company where he became the chief design engineer. While at Toledo Scale, he designed and oversaw the creation of many important scales. H.W. Hem retired from Toledo Scale in 1960 (1963?) after 31 years of service.

H.W. Hem was married to Madeleine and had three children, Clarice, Paul, and H.W. Jr. H.W. Hem passed away on February 3, 1988 at the age of 95.

**H.O and H.W. Hem Toledo Scale
Papers, 1910s-1960s**

Scope and Content Note

The papers of H.O. and H.W. Hem consist of 5 linear feet and broken into four primary series: blueprints and engineering drawings, photographs, publications, and miscellaneous H.O and H.W. materials. These materials give an in-depth description of the engineering side of the Toledo Scale Company during the two Hems' terms as chief engineers. The collection consists of blueprints and drawings, scale newsletters, photographs and catalogs of scales, instructions, other companies' products, sales information, articles, and correspondence materials documenting the daily engineering of scales.

The four series are arranged alphabetically then chronologically. Also, those materials specifically designated by H.O. or H.W. have been arranged first by father (H.O.) then by son (H.W.), followed by those materials without designated ownership.

Many items may be duplicated in the Toledo Scale Collection, MSS-153.

**H.O and H.W. Hem Toledo Scale
Papers, 1910s-1960s**

Series List

S1 Blueprints and Engineering Drawings

1910s-1960s, 1 linear ft.

This series is arranged with drawings of H.O (1913, 1921), followed by drawings of H.W. For blueprints where no producer is noted, they are arranged by decade with the last folder containing those drawings with no date or illegible dates. The beginning date of the drawing was used where applicable, but when one was not available the completion date was used for filing. There is also one folder with graded drawings by Paul Hem, son of H.W. Hem. The blueprints and drawings are of scales and mechanical parts.

S2 Photographs

Not dated, .75 linear ft.

The photographs in this series are arranged first by ownership by H.O. Hem then by model number. The first three folders are photographs from catalogs of scales that H.O. Hem kept, while the other folders are pictures of specific scales presumably from catalogs but not kept together as such. The photographs are arranged first by those with model numbers, followed by those with no model numbers. The photographs are of scales or mechanical devices.

S3 Publications

1920s-1960s, 1 linear ft.

The materials in this series are arranged alphabetically then chronologically. There are a number of Toledo Scale newsletters such as *Scale Journal*, *Service*, *Toledo Scalemen*, *Toledo System*, and *Toledo System Jr*. There are also magazines, pamphlets, and articles pertaining to engineering.

S4 Miscellaneous, H.O. and H.W. Hem materials

1920s-1960s, 2.25 linear ft.

This series contains materials that do not fit specifically into one of the other series. The contents are arranged alphabetically by subject, then chronologically with possessions of H.O. first, then H.W., then materials not designated as belonging to either. In this series can be found company catalogs, data books, instructions, handbooks, parts catalogs, financial data correspondence, price information, posters, and scale information.

**H.O and H.W. Hem Toledo Scale
Papers, 1910s-1960s**

Folder List

Box	Folder	Description
		S1. Blueprints and Engineering Drawings
1	1	Blueprints, H.O. Hem, 1913, 1921
	2	Blueprints, H.W. Hem, 1925, 1926, 1940-41
	3	Blueprints, 1908, 1910
	4	Blueprints, 1920s
	5	Blueprints, 1930s
	6	Blueprints, 1940s
	7	Blueprints, Paul Hem, 1949
	8	Blueprints, 1950s
	9	Blueprints, not dated or illegible
2		S2. Photographs
	10	Photographs, scale catalogs, H.O. Hem (1 of 3)
	11	Photographs, scale catalogs, H.O. Hem (2 of 3)
	12	Photographs, scale catalogs, H.O. Hem (3 of 3)
	13	Photographs, scale catalogs
	14	Photographs, model number
	15	Photographs, no designation
		S3. Publications
	16	Magazines, <i>American Miller and Processor</i> , December
	17	Magazines, <i>The Vancoram Review</i> , Fall 1955
	18	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1924, 1926
	19	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1930, 1932,
	20	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1940-41, 1942,
	21	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1950
	22	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1950
	23	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1952
	24	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1953
	25	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1954
	26	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1955
	27	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1956
	28	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1957
3	29	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1958
	30	Newsletters, <i>Scale Journal</i> , H.W. Hem, 1959

**H.O and H.W. Hem Toledo Scale
Papers, 1910s-1960s**

- 31 Newsletters, *Service*, 1926-27, 1933, 1939
- 32 Newsletters, *Toledo Scalemen*, H.W. Hem, 1932
- 33 Newsletters, *Toledo System*, 1915, 1922, 1924
- 34 Newsletters, *Toledo System*, 1930
- 35 Newsletters, *Toledo System*, 1931
- 36 Newsletters, *Toledo System*, 1932
- 37 Newsletters, *Toledo System*, 1933
- 38 Newsletters, *Toledo System*, 1934
- 39 Newsletters, *Toledo System*, 1937
- 40 Newsletters, *Toledo System*, 1938
- 41 Newsletters, *Toledo System*, 1939
- 42 Newsletters, *Toledo System*, 1940
- 43 Newsletters, *Toledo System*, 1950
- 44 Newsletters, *Toledo System*, 1951
- 45 Newsletters, *Toledo System*, 1952
- 46 Newsletters, *Toledo System*, 1953
- 47 Newsletters, *Toledo System*, 1954
- 48 Newsletters, *Toledo System*, 1955-1956
- 49 Newsletters, *Toledo System*, 1957
- 50 Newsletters, *Toledo System*, 1958
- 51 Newsletters, *Toledo System*, 1959
- 52 Newsletters, *Toledo System*, 1960
- 53 Newsletters, *Toledo System, Jr.*, 1930
- 54 Pamphlet, H.W. Hem, "Effects of Shock Loadings"
- 55 Pamphlet, H.W. Hem, "Terminology," 1955
- 56 Pamphlet, "A Comparison"
- 57 Pamphlet, "After 36 Successful Years"
- 58 Pamphlet, "How to Weld Aluminum," 1946
- 59 Pamphlet, "Indiana Association of Inspectors of Weights and Measures Annual," 1939
- 60 Pamphlet, "Metric System," 1973
- 61 Pamphlet, "Shot Peening and the Fatigue of Metals," 1944
- 62 Pamphlet, "Upgrade your Weights and Measures Department," 1956
- 63 Pamphlet, "Weighing Machine Pivots," 1946
- 64 Pamphlet, "Which Scale for your Weighing Job?" 1954
- 65 "Toledo Weight Control in Industry"

S4 Miscellaneous H.O and H.W. Hem Materials

- 66 50th Anniversary, 1951
- 67 100% Club Roster, 1957
- 68 Annual Convention and scale show
- 69 Bibliography of scales, 1950

**H.O and H.W. Hem Toledo Scale
Papers, 1910s-1960s**

- 70 Book, H.W. Hem, Design worksheets, 1933
- 71 Building lists, 1950-1957
- 72 Bulletin, H.W. Hem, Custom Industrial, 1955, 1958
- 73 Bulletin, Government Division, 1958
- 74 Bulletin, Martin-Decker
- 75 Bulletin, Service, 1958
- 76 Catalog, H.O. Hem, Industrial Automatic Dial Scales
- 77 Catalog, H.W. Hem, Barden Precision Ball Bearings, 1948
- 78 Catalog, Chatillon, 1937
- 79 Catalog, Copeland
- 80 Catalog, Miniature Precision Bearings, 1950

- 4 81 Companies, Baldwin, 1950, 1951, 1954, 1955
- 82 Companies, Bushings, Inc.
- 83 Companies, Chatillon
- 84 Companies, Electro-voice
- 85 Companies, Fairbanks-Morse
- 86 Companies, Fleet, 1955-1956
- 87 Companies, Fluid Controls Co. Inc.
- 88 Companies, Groove-Pin Corp.
- 89 Companies, Hardy
- 90 Companies, Howe
- 91 Companies, Jensen
- 92 Companies, Lindberg Steel Treating Co.
- 93 Companies, Metco
- 94 Companies, Mettler
- 95 Companies, Morehouse Machine Co., 1932
- 96 Companies, Nelson
- 97 Companies, Osborne Register Co.
- 98 Companies, Sanborn
- 99 Companies, Statham Instruments, Inc.
- 100 Companies, U.S. Automatic Corp.
- 101 Companies, W.C. Dillon and Co., Inc, 1954
- 102 Companies, Yale and Towne, 1948
- 103 Data, H.W. Hem, 1947
- 104 Data, 1942
- 105 Data booklet, H.W. Hem, 1931-1939
- 106 Defiance Scales
- 107 Department of Agriculture, 1949
- 108 Engineering for standard parts, 1955
- 109 Instructions for salesmen, 1943
- 110 Instructions
- 111 Instructions, Conversion

**H.O and H.W. Hem Toledo Scale
Papers, 1910s-1960s**

- 112 Instructions, H.W. Hem, Guardian "70" 1948-1949
- 113 Instructions, H.W. Hem, Heavy duty scales, 1928
- 114 Instructions, H.W. Hem, Model 31-1800 Type scales and ratio counting, 1938
- 115 Instructions, H.W. Hem, Model 2041-2061-2071-2081, 1953
- 116 Instructions, H.W. Hem, New unit weight cabinet
- 117 Instructions, H.W. Hem, Salesmen mechanical information
- 118 Instructions, H.W. Hem, Streeter-Amet type Mt.-14 recorder, 1941
- 119 Instructions, H.W. Hem, Toledo Bench scales, 1928
- 120 Instructions, H.W. Hem, Toledo dormant type scales-1500 line, 1928
- 121 Instructions, H.W. Hem, Toledo fan type
- 122 Instructions, H.W. Hem, Toledo Person weigher, 1928
- 123 Instructions, H.W. Hem, Toledo portable type scale, 1800 style
- 124 Instructions, H.W. Hem, Toledo printweigh, 1937
- 125 Instructions, B & I Gem maker
- 126 Instructions, Decitron Electronic counters
- 127 Instructions, Load cells, 1955
- 128 Instructions, Portable Contractors scale, 1960
- 129 Instructions, SR-4 load cells
- 130 Instructions, Yale scale, 1947
- 131 Letters, H.W. Hem, 1943, 1945, 1958-1960
- 132 Manual, H.W. Hem
- 133 Massa-Cohu Electronics, Inc.
- 134 Mechanical Engineers handbook, 4th ed., 1941, H.W. Hem

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- 135 Miscellaneous
- 136 National Bureau of Standards, Book, 1929
- 137 National Conference on Weights and Measures, 1956
- 138 Organizational correspondence, 1939, 1951, 1958
- 139 Parts Catalogs, H.O. Hem, Fairbanks, 1931
- 140 Parts Catalogs, H.W. Hem, Fairbanks, 1960
- 141 Parts Catalogs, H.W. Hem, Toledo, 1935
- 142 Parts Catalogs, H.W. Hem, Toledo Guardian "70," 1948
- 143 Parts Catalogs, H.W. Hem, Toledo Styles 1074, 1075, 1076, 1020, 1030, 1040
- 144 Parts Catalogs, Toledo Yale and Towne Dormant scale
- 145 Parts Catalogs, Detecto scales
- 146 Parts Catalogs, General Electric
- 147 Parts Catalogs, Jacobs Detecto Scales
- 148 Parts Catalogs, Toledo, 1922-1923
- 149 Parts Catalogs, Toledo model 5200, 1948
- 150 Parts Catalogs, Toledo Printweigh, 1939

**H.O and H.W. Hem Toledo Scale
Papers, 1910s-1960s**

- 151 Poster, 100% Club, 1941
- 152 Poster, Toledo Scale
- 153 Post-Graduate industrial school, 1939
- 154 Price lists, 1955
- 155 Product engineering, 1952
- 156 Profit insurance, H.W. Hem, 1927
- 157 Project budgets, H.W. Hem, 1959-1960
- 158 Product information, Automatic dial weighing
- 159 Product information, Lever system, #1700-3700 styles
- 160 Product Information, New fan type scales
- 161 Product information, Overhead track type, #2200 style, 1927
- 162 Product information, Toledo motor truck scales
- 163 Ruler
- 164 Sales data, Fairbanks-Morse, 1930
- 165 Sales data, Toledo Printweigh, 1934
- 166 Sales data, Toledo Printweigh, 1937
- 167 Sales data, Toledo Printweigh, 1942
- 168 Scales, Ametron electronic scale
- 169 Scales, Avery road vehicle weighbridge
- 170 Scales, Berkel, 1959
- 171 Scales, Chopper line, 1960
- 172 Scales, Decitron
- 173 Scales, Detecto, 1958
- 174 Scales, Hopper
- 175 Scales, Howe, 1959
- 176 Scales, International Accounting Scale
- 177 Scales, Load cells
- 178 Scales, New "S" self-contained floor scales
- 179 Scales, Portable motor truck scale, 1960
- 180 Scales, Toledo butter print scale, 1940
- 181 Scales, Toledo computagram
- 182 Scales, Toledo dormant type platforms
- 183 Scales, Toledo guardian "70" duplex
- 184 Scales, Toledo heavy capacity
- 185 Scales, Toledo mural scales
- 186 Scales, Toledo valueprint system
- 187 Scales, Trescomatic
- 188 Schoolastic contest
- 189 Service bulletin, Toledo scale, 1956
- 190 Service manual, Fan scales, 1956
- 191 Soweigh Scale Co.
- 192 Statham Laboratories, 1956