

# NAMED LABORATORY APPARATUS

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<http://www.chem.yorku.ca/NAMED/>

## Ernst Karl Abbé

23 January 1840 – 14 January 1905

German, b. Eisenach, Germany

Abbé refractometer

### Biographical References:

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## Emil Abderhalden

9 March 1877 – 5 August 1950

Swiss, b. Ober-Uzwil, St. Gallen, Switzerland

Abderhalden drying pistol

Brahm, C.; Wetzell, J. in Abderhalden, E. (ed.) *Handbuch der Biochemischen Arbeitsmethoden*, Urban & Schwarzenberg: Berlin, 1910, Vol. 1, p. 296 – 297

Abderhalden optical method

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## Felix Richard Allihn

1854 - 29 September 1915

German, b. ?

### Allihn condenser

Allihn, F.R. *Chem. Ztg.* **1886**, 10, 52  
Allihn, F. *Z. Anal. Chem.* **1886**, 25, 36  
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### Biographical References:

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## Arnold Orville Beckman

10 April 1900 – 18 May 2004

American, b. Cullom, Illinois, USA

### Beckman pH meter

Beckman, A.O.; Arthur, E.P. "Electrochemical electrode structure" US 2755243 (1956-07-17)

### Biographical References:

Wilson, E. *Chem. Eng. News* **2000**, 78(15), 17  
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## Ernst Otto Beckmann

4 July 1853 - 12 July 1923

German, b. Sölingen, Germany

### Beckmann thermometer, Beckmann method

Beckmann, E., *Z. Physik. Chem.* **1888**, 2, 638; 715  
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## Ernst Wilhelm Büchner

1850 - 1925

German, b. ?, Germany

### Büchner funnel

Buchner, E. *Chem. Ztg.* **1888**, 12, 1277.

### Biographical References:

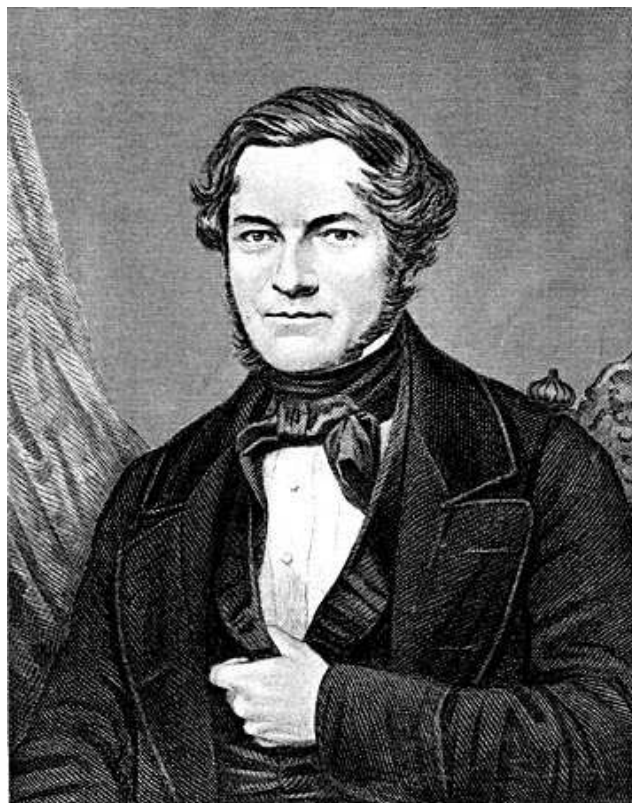
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## Robert Wilhelm Eberhard Bunsen



31 March 1811 - 16 August 1899

German, b. Göttingen, Germany

## Bunsen burner

### Biographical References:

Farber, Eduard (ed.), *Great Chemists*, Interscience Publishers: New York, 1961

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## Georg Ludwig Carius

24 August 1829 – 24 April 1875

German, b. Barbis, Germany

## Carius tube

### Biographical References:

Sella, A. *Chem. World* **2009**, April

*Pogg.* 3, 235

Kämmerer, H. *J. Prakt. Chem.* **1875**, 120, 455

Ladenburg, A. *Chem. Ber.* **1876**, 9, 1992

## Anders Celsius



27 November 1701 - 25 April 1744  
Swedish, b. Uppsala, Sweden

Celsius temperature scale

"Observationer om twänne beständiga grader på en thermometer" in *Kungliga Svenska vetenskapsakademiens handlingar* **1742**, 121 - 180

Biographical References:

Daintith, J.; Mitchell, S.; Tootill, E.; Gjersten, D., *Biographical Encyclopedia of Scientists*, Institute of Physics Publishing: Bristol, UK, 1994

## Rainer Ludwig Claisen

14 January 1851 - 5 January 1930  
German, b. Cologne, Germany

Claisen flask

Claisen adapter

Biographical References:

Morris, Peter *Biographies of Chemists*, Royal Society of Chemistry,  
<http://www.chem.qmw.ac.uk/rschg/biog.html>  
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## Lyman Creighton Craig

12 June 1906 – 7 July 1974

American, b. Carlisle, Iowa

### Craig's rotary evaporator

Craig, L.C.; Gregory, J.D.; Hausmann, W. *Anal. Chem.* **1950**, 22, 1462

### Countercurrent extraction

Craig, L.C. *J. Biol. Chem.* **1943**, 150, 33

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### Micro-distillation apparatus

Craig, L. C. *Ind. Eng. Chem. Anal. Ed.* **1936**, 8, 219

### Biographical References:

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## John Frederic Daniell

12 March 1790 - 13 March 1845

British, b. London, England

### Daniell cell

Daniell, F. *Phil. Trans.* **1836**, 126, 107; 125

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### Biographical references:

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## Davies

### Davies double surface condenser

Davies, *Chem. Ztg.* **1907**, 31, 761

### Biographical References:

## Ernest Woodward Dean

28 September 1888 – 1959

American, b. Taunton, Massachusetts, USA

### Dean-Stark apparatus

Dean, E.W.; Stark, D.D., *Ind. Eng. Chem.* **1920**, 12, 486

### Biographical References:

Anon., *J. Inst. Petrol.* **1960**, 46, 62

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## Sir James Dewar



20 September 1842 - 27 March 1923  
Scottish, b. Kincardine-on-Forth, Scotland

Dewar flask

Dewar, J. *Proc. Roy. Soc. London A* **1905**, 76, 325

Biographical References:

Armstrong, H.E., *J. Chem. Soc.* **1928**, 1066

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Otto Dimroth

28 March 1872 – 16 May 1940  
German, b. Bayreuth, Germany

Dimroth condenser

Biographical references:

Anon., *Angew. Chem.* **1940**, 53, 263

Harms, F., *Chem. Ber.* **1941**, 74 IA, 1

Criegee, R., *Chem. Ber.* **1941**, 74 IA, 3

Ebert, L., *Chem. Ber.* **1941**, 74 IA, 12



## Harold Baily Dixon

11 August 1852 - 18 September 1930

British, b. London, England

Dixon gauze rings

### Biographical References:

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## Johann Wolfgang Döbereiner



13 December 1780 - 24 March 1849

German, b. Bug bei Hof, Hofander Saale, Bavaria, Germany

## Döbereiner lamp

Döbereiner, J., *Ann. Physik* **1823**, 74, 269

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## Heinrich Ferdinand Edmond Dreschel

3 September 1843 – 22 September 1897

German, Leipzig, Germany

## Dreschel bottle

## Biographical references:

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Graf, J.H. *Verhandl. Schw. Nat. Ges.* **1897**, 80, 234

## Samuel Felix Dufton

14 February 1867 - 24 June 1943

British, b. Leeds, England

## Dufton column

Dufton, S.F., *J. Soc. Chem. Ind.* **1919**, 38, 45T

## Biographical References:

Hewitt, J.T., *J. Chem. Soc.* **1943**, 508

## Richard August Carl Emil Erlenmeyer



28 June 1825 - 22 January 1909

German, b. Wehen, near Wiesbaden, Germany

Erlenmeyer flask

#### Biographical References:

W.H.P., *J. Chem. Soc.* **1911**, 99, 1649

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### Friedrich Gustav Carl Emil Erlenmeyer

14 July 1864 - 8 February 1921

German, b. Heidelberg, Germany

Erlenmeyer flask

#### Biographical references:

Lepsius, B. *Chem. Ber.* **1921**, 54IA, 107

Pogg. 4, 392; 5, 345; 6(1), 673

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### Gabriel Daniel Fahrenheit

24 May 1686 - 16 September 1736

German, b. Danzig, Germany, now Gdansk, Poland

Fahrenheit temperature scale

Fahrenheit, G.D., *Phil. Trans.* **1724**, 33, 1

Biographical References:

Daintith, J.; Mitchell, S.; Tootill, E.; Gjersten, D., *Biographical Encyclopedia of Scientists*, Institute of Physics Publishing: Bristol, UK, 1994

## Merrell Robert Fenske

5 June 1904 - 28 September 1971

American, b. Michigan City, Indiana, USA

Fenske rings

Fenske, M.R., *Ind. Eng. Chem.* **1932**, 24, 482

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Anon., *Chem. Eng. News* **1971**, 49(42), 45

## Fritz Walter Paul Friedrichs

28 July 1885 - 12 March 1958

German, b. Stützerbach, Germany

Friedrichs condenser

Friedrichs, F., *J. Am. Chem. Soc.* **1912**, 34, 1509

Friedrichs, F., *Chem. Fabrik.* **1931**, 4, 219

Friedrichs filter funnel

Friedrichs, F., *Angew. Chem.* **1909**, 21, 2319

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## Johan Gadolin

1760 – 1852

Finnish, b. ?

Gadolin condenser

Gadolin, J. *Kungl. Svenska Vetenskaps. Nya Handli.*, **1791**, 12, 178

### Biographical References:

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## Max Paul Wolfgang Gaede

25 May 1878 - 28 June 1945

German, b. Lehe, now part of Bremerhaven, Germany

### Gaede oil diffusion pump

Gaede, W., *Z. Tech. Physik* **1932**, 13, 210

### Biographical References:

Redhead, Paul A. (ed.), *Vacuum Science and Technology: Pioneers of the 20th Century*, AIP Press: New York, 1994

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## Hans Johannes Wilhelm Geiger

30 September 1882 - 24 September 1945

German, b. Neustadt-an-der-Haardt (now Neustadt-an-der-Weinstrasse),  
Rheinland-Pfalz, Germany

### Geiger counter

Rutherford, E.; Geiger, H. *Proc. Roy. Soc. London A*, **1908**, 81, 612

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### Biographical references:

Trenn, T.J. in Gillispie, Charles Coulston (ed.), *Dictionary of Scientific Biography*, Charles Scribner & Sons: New York, 1972, Vol. 5, 330

## Frank Austin Gooch

2 May 1852 – 12 August 1929

American, b. Watertown, Massachusetts, USA

### Gooch crucible

Gooch, F.A. *Am. Chem. J.* **1879**, 1, 317

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Biographical references:

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John Joseph Griffin

22 January 1802 - 9 June 1877

British, b. London, England

Griffin beaker

Biographical References:

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Emanuel Benjamin Hershberg

28 July 1908 -

American, b. Lynn, Massachusetts, USA

Hershberg stirrer

Hershberg, E.B., *Ind. Eng. Chem.* **1936**, 8, 313

Hershberg dropping tube

Fieser, L.F.; Hershberg, E.B., *Org. Synth. Coll. Vol. II* **1943**, 2, 128

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Walter Mathias Hempel

5 May 1851 - 1 December 1916

German, b. Pulsnitz, Germany

Hempel column

Hempel pipet

Biographical References:

Foerster, F., *Chem. Ber.* **1920**, 53A, 123

Foerster, F., *Angew. Chem.* **1917**, 30, 1

Debus, Allen G. (ed.) *World Who's Who in Science*, 1st ed., Marquis-Who's Who, Inc.: Hannibal: Missouri, 1968

## Kenneth Claude Devereux Hickman

4 February 1896 - ?

British-American, b. London, England

Hickmann oil diffusion pump

Hickmann, K.C.D.; Sanford, C.R., *Rev. Sci. Instrum.* **1930**, 1, 140

Biographical References:

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*Pogg.* **1937**, 6, 1115

Anon. *Chem. Eng. News* **1950**, 28, 3882

## Robert Hirsch

1856 – 18 May 1913

German, b. Danzig (now Gdansk), Poland

Hirsch funnel

Hirsch, R. *Chem. Ztg.* **1888**, 12, 340.

Biographical References:

Jensen, W.B. *J. Chem. Educ.* **2006**, 83, 1283.

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## August Wilhelm von Hofmann



8 April 1818 - 2 May 1892

German, b. Giessen, Germany

## Hofmann's voltammeter

### Biographical references:

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## George Holzman

25 January 1920 –

American, b. Los Angeles, California, USA

### Holzman column

Gould, C.W., Jr.; Holzman, G.; Niemann, C., *Anal. Chem.* **1948**, 20, 361

### Biographical References:

R.R. Bowker's *American Men & Women of Science 1998 - 99*, 20th ed., R.R. Bowker: New Providence, New Jersey, 1998

## Clement Jones

American, b. ?

### Jones reductor

Jones, C. *Trans. Amer. Inst. Mining Eng.* **1889**, *17*, 411.

### Biographical references:

## Hermann Keck

1919 –

German, b. Trevesa, Germany

### Keck clip

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### Biographical References:



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## Petrus Johannes Kipp

5 March 1808 – 3 February 1864

Dutch, b. Utrecht, Holland

### Kipp gas generator

Kipp, P.J. *Tijdschrift voor Handel en Nijverheid* **1844**, 1, 100

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### Biographical references:

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Pot, M.A., personal communication, November 2005

## Ketene Lamp

### Pyrolysis of acetone

Schmidlin, J.; Bermann, M. *Chem. Ber.* **1911**, 43, 2821

Schmidlin, J.; Huber, M. *Chem. Ber.* **1911**, 43, 2824

## Johann Gustav Christoffer Kjeldahl

16 August 1849 - 18 July 1900

Danish, b. Jagerpris, Denmark

### Kjeldahl flask

Kjeldahl, J. *Medd. Carlsberg Lab.* **1888**, 2, 330

### Biographical references:

Szabadvary, F. in Gillispie, Charles Coulston (ed.), *Dictionary of Scientific Biography*, Charles Scribner & Sons: New York, 1980, Vol. 7, 393

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## Martin Hans Christian Knudsen

15 February 1871 - 27 May 1949

Danish, b. Hasmark, Fyn, Denmark

Knudsen vacuum gauge

Knudsen, M., *Ann. Physik (Leipzig)* **1910**, 31, 633

Biographical References:

Redhead, Paul A. (ed.), *Vacuum Science and Technology: Pioneers of the 20th Century*, AIP Press: New York, 1994

## Rudolf Lessing

1878 - 2 September 1964

German-British, b. Bavaria, Germany

Lessing rings

Lessing, R. "Improvements in fractional distillation, absorption, or like columns", GB 929030 (1963-06-19)

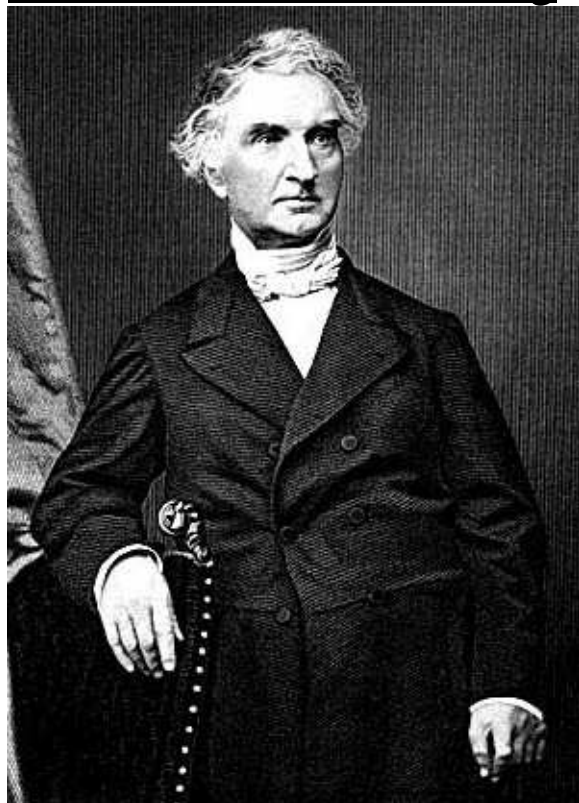
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Biographical References:

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Anon., *Chem. Eng. News* **1964**, 42(39), 90

## Justus Freiherr von Liebig



12 May 1803 - 18 April 1873  
German, b. Darmstadt, Germany

Liebig condenser

Liebig kaliapparat

Liebig, J. *Ann. Phys.* **1831**, 21, 1

Biographical References:

Farber, Eduard (ed.), *Great Chemists*, Interscience Publishers: New York, 1961

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Herbert McLeod

19 February 1841 - 1 October 1923

British, b. Stoke Newington, England

McLeod vacuum gauge:

McLeod, H., *Phil. Mag.* **1874**, 48, 110

McLeod, H. *Phys. Soc. Proc.* **1876**, 1, 30

Biographical References:

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Viktor Meyer

8 September 1848 - 8 August 1897

German, b. Berlin, Germany

Viktor Meyer tube, Viktor Meyer method

Meyer, V., *Chem. Ber.* **1876**, 9, 1216

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Meyer, V., *Chem. Ber.* **1878**, 11, 1867

### Biographical References:

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## Karl Friedrich Mohr

1806 – 1879

German, b. Koblenz, Prussia

Mohr burette

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## Avery Arthur Morton

1892 – ?

American, b. St. Lawrence, South Dakota, USA

Morton flask

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## Friedrich Wilhelm Ostwald



2 September 1853 - 4 April 1932  
Latvian, b. Riga, Latvia

Nobel Prize Chemistry 1909

Ostwald's viscometer

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Jakub Karol Parnas



16(28) January 1884 - 29 January 1949

Polish-Ukrainian, b. Mokryany, Drohobych district, Lvov region

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## Samuel Wilson Parr

21 January 1857 – 16 May 1931

American, b. Granville, Illinois, USA

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## Louis Pasteur



27 December 1822 - 28 September 1895

French, b. Dôle, France

Pasteur pipet

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## Frans Michel Penning

12 September 1894 – 6 December 1953

Dutch, b. Gorcum, Netherlands

Penning vacuum gauge

Penning, F.M., *Physica's Grav.* **1937**, 4, 71

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## William Henry Perkin, Jr.

1860 - 1929

British, b. ?

Perkin triangle

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## Richard Julius Petri

1852 – 1921

German, b. Barmen, Germany

Petri dish

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## Marcello Stefano Pirani

1 July 1880 - 11 January 1968

Italian-German, b. Berlin, Germany

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## Carl Pulfrich

24 September 1858 - 12 August 1927



German, b. Strasschen, near Burscheid, Solingen, Germany

### Pulfrich's refractometer

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### Pulfrich's photometer

Pulfrich, C. *Z. Instrumentenkunde* **1925**, 45, 35; 61; 109; 521

### Other accomplishments:

#### Stereoscopic rangefinder with staggered scale

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### Stereocopying machine

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### Stereo comparator

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## Friedrich August Fritz Raschig

8 June 1863 - 4 February 1928

German, b. Brandenburg, Germany

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## Wilhelm Schlenk

22 March 1879 - 29 April 1943

German, b. Munich, Germany

Schlenk tube, Schlenk flask

Schlenk, W.; Thal, A. *Chem. Ber.* **1913**, 46, 2840

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## Otto Friedrich Schott

17 December 1851 - 27 August 1935

German, b. Witten, Germany

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## Rudolf Signer

17 March 1903 – 1 December 1990

Swiss, b. Herisau, Switzerzland

Signer osmometer

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## Franz von Soxhlet

12 January 1848 - 1926

German, b. Brünn, Mähren, Germany

## Soxhlet extraction apparatus

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## Hermann Johann Phillip Sprengel

29 August 1834 – 14 January 1906

German, b. Hanover, Germany

## Sprengel pump

Sprengel, H.J.P. *J. Chem. Soc.* **1865**, 18, 9

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## David Dewey Stark

1893 - 1979

## Dean-Stark apparatus

see Ernest Woodward Dean

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## Donald Frank Stedman

4 April 1900 - 1967

British-Canadian, b. Sussex, England

## Stedman column

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## Friedrich Karl Johannes Thiele

13 May 1865 - 17 April 1918

German, b., Ratibor, Germany, now Racibórz, Poland

### Thiele tube:

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## August Joseph Ignaz Töpler

7 September 1836 – 5 March 1912

German, b. Brühl, Germany

### Töpler mercury pump

Töpler, A. *Dingler's Polytech. J.* **1862**, 163, 425

### Biographical References:

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## Pierre Vernier

1580 - 14 September 1637

French, b. Ornans, France

### Vernier calipers

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## Henri Narcisse Vigreux

16 December 1869 – 25 October 1951

French, b. Parly, France

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### Biographical References:

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## George Henry Walden Jr.

23 July 1894 - ?

American, b. Rochester, New York, USA

### Walden reductor

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## Gustav Widmer

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### Biographical References:

## Zimmerli

Zimmerli vacuum gauge

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