

U.S. Refrigeration and Air Conditioning Patents

Part 2: U.S. Air Conditioning Patents

Last revision: January, 2004

Scope:

This listing was compiled from patent listings published in trade literature such as *Electric Refrigeration News*, *Refrigeration and Air Conditioning News*, *Ice and Refrigeration*, *Refrigerating Engineering* as well as articles, books, trade literature. In the early 1980's, the Historical Committee of The American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) investigated the possibility of re-creating a patent file that had been assembled by ASHRAE president Glenn Muffley covering the period 1800's -1930's. (That file no longer exists) Bernard Nagengast volunteered to research US Air Conditioning and Refrigeration Patents and create a list and obtain copies of the patents. The hard copies of the patents have been deposited in the ASHRAE Library in Atlanta, Georgia. Copies of these patents are available directly from the US Patent Office and can be accessed online at the US Patent Office websight. This file does not contain every Refrigeration or Air Conditioning Patent that was issued during the time period, only those that were found in the sources checked. Patents can be issued by the Patent Office under many different classes, making it difficult to locate every single patent on a given subject. Although most of the patents are present in this listing, is probably not complete and additional patents may be added.

Contents:

Part 1 of the list has US Refrigeration Patents listed in numerical order. Reissued patents are listed last. Part 2 of the list has US Air Conditioning Patents. In some case, the same patent is listed in both parts if it pertains to both Refrigeration and Air Conditioning. Patents are listed with the number, inventor, issue date, file date (if present on the patent) and title.

Searching:

The list can be searched using the software of this program. (originally created in Microsoft Word) Note that the titles of the patents may not indicate the scope of the patent, and the word "refrigeration" or "air conditioning" may not be used in the same context as we use the terms today. For example, some early patents use the term refrigeration to refer to what we would call air conditioning now.

Part 2: U.S. Air Conditioning Patents:

18,696	David Kahnweiler November 24, 1857 <i>Ventilating rocking-chair</i>	Wilmington, NC
44,229	Daniel E. Somes September 13, 1864 <i>Improved means of securing a uniform temperature in packing and preserving houses, hospitals, and other buildings</i>	Washington, D.C.
46,596	Daniel E. Somes February 28, 1865 <i>Improved mode of cooling and ventilating dwellings, churches, hospitals, theaters, and other buildings</i>	Washington, D.C.
47,991	Nathl. S. Shaler May 30, 1865 <i>Improved air-cooling apparatus</i>	Newport, KY
61,886	Daniel E. Somes February 5, 1867 <i>Improvement in moistening, cooling, and warming air</i>	Washington, D.C.
70,909	Daniel E. Somes November 12, 1867 <i>Improvement in cooling air and other substances</i>	Washington, D.C.
73,936	Daniel E. Somes January 28, 1868 <i>Improved apparatus for making ice, and for cooling air and liquids</i>	Washington, D.C.
77,669	Daniel E. Somes May 5, 1868 <i>Improvement in cooling air and liquids in making ice</i>	Washington, D.C.
87,041	Edwin H. Grant February 16, 1869 <i>Improved process cooling the atmosphere in rooms and other enclosures</i>	Washington, D.C.

96,047	Daniel E. Somes October 19, 1869 <i>Improved mode of ventilating and cooling</i>	Washington, D.C.
110,573	Julius Kraffert December 27, 1870 <i>Improvement in machines for cooling air and for the manufacture of ice</i>	Hoboken, NJ
184,291	Robert H. Lucas November 14, 1876 Application filed: September 16, 1876 <i>Improvement in process and apparatus for dehydrating and refrigerating air</i>	San Francisco, CA
184,797	Gregory C. Quezada November 28, 1876 Application filed: September 26, 1876 <i>Improvement in ventilating rooms</i>	Troy, NY
191,719	Charls Pfanne June 5, 1877 Application filed: May 2, 1877 <i>Improvement in air-cooling apparatus</i>	Washington, D.C.
215,783	Levi J. Wing May 27, 1879 Application filed: November 8, 1878 <i>Improvement in ventilators</i>	Baltimore, MD
229,750	Robert Portner & P. Edward J. Eils July 6, 1880 Application filed: April 8, 1880 <i>Process of and apparatus for cooling air</i>	Alexandria, VA
237,312	George E. Noyes February 1, 1881 Application filed: July 19, 1880	Washington, D.C.

- Method of and apparatus for cooling air in buildings*
- 262,185 Henry C. Johnson Washington, D.C.
Francis M. McMillan
August 1, 1882
Application filed: May 13, 1882
Refrigeration of buildings
- 265,256 John Gamgee London, England
October 3, 1882
Application filed: January 30, 1882
System of producing and controlling currents of the air for cooling, warming, ventilating, &c.
- 272,654 Henry D. Cogswell San Francisco, CA
February 20, 1883
Application filed: October 24, 1881
System of and cooling apparatus for producing and distributing refrigerated air and water
- 275,964 Theodore S. Very Boston, MA
April 17, 1883
Application filed: August 16, 1881
Method of cooling and distributing air for refrigerating and ventilating purposes
- 297,039 William V. Wallace Boston, MA
April 15, 1884
Application filed: March 4, 1884
Air-cooling device
- 297,476 William V. Wallace Boston, MA
April 22, 1884
Application filed: March 4, 1884
Air-cooling device
- 316,976 Henry C. Johnson Meadville, PA
May 5, 1885
Application filed: April 6, 1885
Apparatus for cooling buildings, &c.

586,365	Joseph McCreery July 13, 1897 Application filed: February 17, 1897 <i>Air cooling, cleansing, and ventilating device</i>	Toledo, OH
626,388	Joseph McCreery June 6, 1899 Application filed: November 5, 1897 <i>Air cleansing and cooling device</i>	Toledo, OH
631,920	Allen Fowler & Andrew Harpole August 29, 1899 Application filed: December 31, 1897 <i>Apparatus for compressing sterilizing and purifying air</i>	Union City, TN
638,886	Louis Bell Assignor by mesne assignments to: Bell House Cooling Company November 14, 1899 Application filed: January 28, 1898 <i>Cooling apparatus</i>	Newton, MA New York, NY
652,179	James Gayley June 19, 1900 Application filed: November 1, 1897 Renewed: May 3, 1900 Application divided: October 30, 1899 <i>Air-drying</i>	Pittsburg, PA
655,148	Walter H. Dickerson Assignor to: Tripler Liquid Air Company July 31, 1900 Application filed: May 31, 1900 <i>System of cooling and ventilating</i>	Newark, NJ New York, NY
655,285	Richard H. Thomas August 7, 1900	Chicago, IL

Application filed: April 20, 1900
Air-purifying apparatus

697,679 Alfred Siebert St. Louis, MO
April 15, 1902
Application filed: October 4, 1901
Air-cooling apparatus

702,994 Edwin F. Porter Boston, MA
Assignor to: Bay State Electric Heat & Light Company
Jersey City, NJ
June 24, 1902
Application filed: December 20, 1897
Apparatus for cooling and agitating air

724,145 John Titus & Oyster Bay, NY
William Titus Old Westbury, NY
March 31, 1903
Application filed: August 20, 1902
Apparatus for simultaneously supplying heated and refrigerated air

734,975 Alfred Siebert St. Louis, MO
July 28, 1903
Application filed: April 25, 1903
Apparatus for supplying cool air to buildings

768,622 Christopher Peacock Colorado City, CO
Assignor of two-thirds to: Joseph Peacock &
John McCoach
August 30, 1904
Application filed: September 16, 1903
Air-cooling apparatus

780,385 Alfred Siebert St. Louis, MO
January 17, 1905
Application filed: June 2, 1903
Air-cooling apparatus

808,897 Willis H. Carrier Buffalo, NY

	Assignor to: Buffalo Forge Company January 2, 1906 Application filed: September 16, 1904 <i>Apparatus for treating air</i>	
813,217	John H. Kinealy February 20, 1906 Application filed: March 17, 1905 <i>Air-purifying apparatus</i>	Ferguson, MO
854,270	Willis H. Carrier Assignor to: Buffalo Forge Company May 21, 1907 Application filed: July 16, 1906 <i>Method of heating and humidifying air</i>	Buffalo, NY
871,194	Richard H. Thomas November 19, 1907 Application filed: October 23, 1905 <i>Humidity-reducing apparatus</i>	Chicago, IL
899,289	William G. R. Braemer Assignor to: Warren Webster & Company September 22, 1908 Application filed: October 15, 1907 <i>Apparatus for purifying and humidifying air</i>	Buffalo, NY Corp. of NJ
904,420	Pauline Grayson November 17, 1908 Application filed: May 29, 1907 <i>Apparatus for cooling rooms</i>	New York, NY
1,003,129	Frederick Wittenmeier Assignor to: Kroeschell Bros. Ice Machine Co. September 12, 1911 Application filed: May 18, 1911 <i>Air-cooling apparatus</i>	Chicago, IL Corp. of IL
1,073,475	Stuart W. Cramer	Charlotte, NC

September 16, 1913
Application filed: April 15, 1909
Divided and application filed: January 11, 1910

Air-conditioning apparatus

1,078,608 Willis H. Carrier Buffalo, NY
Assignor to: Buffalo Forge Company
November 18, 1918
Application filed: January 19, 1912

Air-cooling apparatus

1,214,255 Edmund Altenkirch & Berlin, Germany
Bernhard Tenckhoff
January 30, 1917
Application filed: January 6, 1912

*Heating plant utilizing the waste heat of refrigerating-machines of the
compression or absorption type*

1,231,705 Willis H. Carrier Buffalo, NY
Assignor to: Buffalo Forge Company
July 3, 1917
Application filed: May 31, 1911
Divided and application filed: July 30, 1913

Apparatus for regulating the humidity and temperature of air

1,393,086 Willis H. Carrier Buffalo, NY
Assignor to: Carrier Engineering Corporation
October 11, 1921
Application filed: March 27, 1917

*Method of and apparatus for drying, conditioning, and regulating the moisture
content of hygroscopic materials*

1,480,671 Edward T. Curran Detroit, MI
January 15, 1924
Application filed: December 6, 1920

Means for varying the temperature of the atmosphere in a chamber

1,569,214 Willis H. Carrier Essex Fells, NJ
Assignor to: Carrier Engineering Corporation Newark, NJ
January 12, 1926

Application filed: September 2, 1922

Refrigeration system

1,575,817 Willis H. Carrier New York, NY
Assignor to: Carrier Engineering Corporation
March 9, 1926
Application filed: February 2, 1921

Refrigerating system

1,575,818 Willis H. Carrier New York, NY
Assignor to: Carrier Engineering Corporation
March 9, 1926
Application filed: April 5, 1921

Refrigerating system and method of refrigeration

1,575,819 Willis H. Carrier New York, NY
Assignor to: Carrier Engineering Corporation
March 9, 1926
Application filed: April 5, 1921

Refrigerating system

1,583,060 Leo L. Lewis Plainfield, New Jersey
Assignor to: Carrier Engineering Corporation Newark, NJ
May 4, 1926
Application filed: December 22, 1924

Method of and apparatus for cooling and ventilating

1,597,733 Lawrence C. Soule Caldwell, NJ
Assignor by mesne assignments to: Carrier Construction
Company, Inc. Newark, NJ
August 31, 1926
Application filed: December 28, 1922

Radiator or the like

1,642,942 Willis H. Carrier Essex Fells, NJ
Assignor to: Carrier Engineering Corporation Newark, NJ
September 20, 1927
Application filed: April 23, 1923

Substance and process for using the same for refrigerating purposes

1,670,656 Walter L. Fleisher New York, NY
Assignor by mesne assignments to: Auditorium
Ventilating Corporation Jersey City, NJ
Corporation of, NJ
May 22, 1928
Application filed: May 20, 1927
Ventilating system

1,706,852 Gustav A. Kramer Concord, CA
Assignor by mense assignments to: Frigidaire Corporation
Corporation of, DE
March 26, 1929
Application filed: February 7, 1918
Renewed: July 18, 1927
Room-Cooling apparatus

1,751,805 Walter L. Fleisher New York, NY
Assignor to: Cooling and Air Conditioning Corporation NY
March 25, 1930
Application filed: January 13, 1928
Process of ventilating

1,751,806 Walter L. Fleisher New York, NY
Assignor to: Cooling and Air Conditioning Corporation NY
March 25, 1930
Application filed: February 8, 1928
Ventilating system

1,762,520 Charles A. Moore Edina, MN
June 10, 1930
Application filed: January 3, 1927
Air Conditioning and circulating apparatus

1,775,749 Willis H. Carrier Essex Falls, NJ
Assignor to: Carrier Engineering Corporation Newark, NJ
September 16, 1930
Application filed: June 22, 1927
Method and system for ventilating and attemperating auditoriums and the like

1,796,658 Andre M. Mertzanoff New York, NY
Assignor to: American Radiator Company New York, NY
March 17, 1931
Application filed: January 27, 1928
Cooling and ventilating apparatus

1,819,643 Walter L. Fleisher New York, NY
Assignor to: Cooling & Air Conditioning Corporation
August 18, 1931
Application filed: November 30, 1927
Method of cooling and drying air

1,846,875 Alfred D. Karr & Newark, NJ
Karl D. Perkins New York, NY
Assignors to: Audiffren Refrigerating Machine Co. N Y, NY
February 23, 1932
Application filed: March 4, 1931
Air conditioning

1,860,357 Harris Paul Gant Philadelphia, PA
Assignor by mesne assignments to: Carrier
Research Corporation Newark, NJ
May 31, 1932
Application filed: August 8, 1928
Apparatus for cooling air

1,883,456 Carlyle M. Ashley Orange, NJ
Assignor to: Carrier Engineering Corporation Newark, NJ
October 18, 1932
Application filed: April 9, 1928
Gas treating device

1,890,888 John Q. Sherman Dayton, OH
December 13, 1932
Application filed: June 26, 1926
Air cooling apparatus

1,891,903 Harold E. Bang New York, NY
December 27, 1932
Application filed: May 25, 1931

Refrigerated bed and couch

- | | | |
|-----------|---|--|
| 1,917,043 | Thorton Lewis
Assignor by mesne assignments: Carrier
Research Corporation
July 4, 1933
Application filed: July 28, 1930 | Cynwyd, PA
Newark, NJ |
| | <i>Cooling Unit</i> | |
| 1,917,537 | Lee W. Melcher
July 11, 1933
Application filed: August 1, 1930 | Winnetka, IL |
| | <i>Air cooler</i> | |
| 1,921,257 | Lee W. Melcher
August 8, 1933
Application filed: July 18, 1931 | Winnetka, IL |
| | <i>Air conditioning apparatus</i> | |
| 1,948,156 | Carlyle M. Ashley &
Vincent S. Day
Assignors to: Carrier Research Corporation
February 20, 1934
Application filed: June 1, 1931 | South Orange, NJ
Summit, NJ
Newark, NJ |
| | <i>Air conditioning unit</i> | |
| 1,982,125 | Alfred E. Stacey, Jr. &
Herman Richard Arf
Assignors by mesne assignments to: Carrier
Engineering Corporation
November 27, 1934
Application filed: November 29, 1929 | Essex Falls, NJ
Elizabeth, NJ
Newark, NJ |
| | <i>Air distributing system and apparatus for railroad cars</i> | |
| 2,084,392 | John M. Frank &
Walter H. Rietz
Assignors to: Ilg Electric Ventilating Company
June 22, 1937
Application filed: September 30, 1933 | Winnetka, IL
Ravinia, IL
Chicago, IL |

Air conditioning device

2,089,372 Charles F. Henney Dayton, OH
Assignor by mesne assignments: General Motors Corporation
August 10, 1937
Application filed: April 30, 1932
Air conditioning system for sleeping cars

2,091,562 Robert T. Palmer Sharon, MA
Assignor to: B. F. Sturtevant Company Boston, MA
August 31, 1937
Application filed: August 30, 1935
Air conditioning system

2,091,563 Robert T. Palmer Sharon, MA
Assignor to: B. F. Sturtevant Company Boston, MA
August 31, 1937
Application filed: March 13, 1936
Air conditioning system utilizing refrigeration

2,091,594 James A. Innes Kimball, MN
August 31, 1937
Application filed: August 27, 1935
Air conditioning

2,096,553 Andrew A. Kucher Dayton, OH
October 19, 1937
Application filed: September 9, 1936
Cooler for comfort

2,129,783 Gaylord W. Penney Pittsburgh, PA
Assignor to: Westinghouse Electric & Manufacturing
Company East Pittsburgh, PA
September 13, 1938
Application filed: October 15, 1935
Electrical precipitator for atmospheric dust

2,130,327 Henry L. Galson Philadelphia, PA

Assignor to: Baldwin-Southwark Corporation
September 13, 1938
Application filed: December 24, 1932

Air conditioning apparatus

2,150,076 Emil T. P. Neubauer & York, PA
 Alwin B. Newton
 Assignors to: York Ice Machinery Corporation
 March 7, 1939
 Application filed: September 25, 1936
 In Great Britain: December 12, 1935

Refrigeration

2,198,174 Alwin B. Newton Minneapolis, MN
 Assignor to: Minneapolis-Honeywell Regulator Company
 Minneapolis, MN

 April 23, 1940
 Application filed: November 28, 1938

Refrigeration control system

2,219,815 Walter Jones Syracuse, NY
 Assignor to: Carrier Corporation Syracuse, NY
 October 29, 1940
 Application filed: January 18, 1939

Refrigerating and heating systems

2,287,268 Robert T. Palmer Sharon, MA
 Assignor to: B. F. Sturtevant Company Boston, MA
 June 23, 1942
 Application filed: May 18, 1940

Psychrometrically controlled air cooling system

2,309,224 Matson C. Terry & Toledo, OH
 Paul Komroff
 Assignors by mesne assignments to: Matson C. Terry
 Washington, D.C.

 January 26, 1943
 Application filed: January 11, 1940

Self-contained air conditioner

2,316,704 Paul B. Moore York, PA
Assignor to: York Ice Machinery Corporation
York, PA

April 13, 1943
Application filed: August 2, 1940

Air conditioner

2,391,859 Earl Babcock Duncan, OK
Assignor to: Hoover Company
North Canton, OH

January 1, 1946
Application filed: November 7, 1931
Divided and application filed: October 22, 1937

Room cooling device

2,433,960 Robert S. Sherman Lynn, MA
January 6, 1948

Application filed: February 13, 1945

Air conditioning apparatus