HVAC IN HISTORIC BUILDINGS OF USA
PART FOUR
FROM THE EAST COAST, TO THE GULF AND TO CALIFORNIA

BRIAN ROBERTS
Early system of hot air "chimney type" ventilation by Lewis Leeds which failed.
The Typhoon Fan Company 1920s.

CONTENTS: FEATURED BUILDINGS

COVER: Johnson Wax, Racine: front, Kresge, Detroit: inside front, Gwynne, Cincinnati: inside back, Southwestern Bell, St. Louis: back.

HOSPITALS: 1,4-9, OFFICES: 2,20-24
THEATRES: 3,10-19,25, HVAC EQUIPMENT: 31,41,42
TEXTILE MILLS: 32-33

US PATENTS: 25-30,34-40,43,44

REFERENCES AND FURTHER READING: 44

BMR, Budleigh Salterton 2021.
CAMBRIDGE HOSPITAL MASSACHUSETTS

1890.
JOHN HOPKINS HOSPITAL BALTIMORE

1896.
JOHN HOPKINS HOSPITAL BALTIMORE

1896.
NEW YORK HOSPITAL
ORPHEUM MINNEAPOLIS

Opened 1921. Air conditioning by Wittenmeier, CO2 refrigeration.
Flywheel of CO2 refrigeration compressor.

CO2 refrigeration compressor.
Grauman’s Metropolitan Theatre air conditioned by Carrier.
Overhead supply, floor return (opposite to Wittenmeier system)
RIVOLI THEATRE NEW YORK

Keep Cool AT THE Rivoli

We have invested over $100,000 in a refrigerating cooling plant to keep you cool and comfortable when the world is sweltering. Unseen, unheard, resistless are the huge motors with a combined pulling power of 221 horses—representing but a small part of the marvellous equipment which absolutely assures a temperature that is just right. Delightfully refreshing days and evenings all summer at

The RIVOLI THEATRE
BROADWAY at 49th STREET
THE HOME OF Paramount Pictures

1925 Air conditioning by Carrier with 135 TR centrifugal chiller.
FOX THEATRE ATLANTA

Air conditioned with NH₃ refrigeration 1926. Replaced with Carrier centrifugal 1946-64.
Opened 1926, air conditioned by Carrier.
ROXY THEATRE NEW YORK

Opened 1927, 6214 seats, with air conditioning by Carrier.
Two centrifugal chillers, 420 TR total. Theatre demolished 1960
RADIO CITY MUSIC HALL NEW YORK

Opened 1932, 6000 seats. Air conditioning supply air 240,000 cfm, 600 TR.
Served from central chilled water refrigeration plant.
METROPOLITAN LIFE NEW YORK
Existing building, air conditioned 1926, refrigeration Carrier centrifugal.
1928 21 floors, recognised as first building to be "Fully air conditioned."
MILAM BUILDING SAN ANTONIO

Typical floor, Carrier system with two centrifugal chillers, 375 TR total.
1929, 40 floors, the 10 floors above the Bank air conditioned by American Carbonic Machinery.
BUTTERFLY THEATRE MILWAUKEE 1916

BUTTERFLY THEATRE, Milwaukee, Wis.
Most Luxurious, Exclusive, Refined
Photo-Play House in America.
Absolutely Fireproof—Perfect Ventilation.
Change of Program Daily.
Complete Change of Air Every 3 Minutes.

1917.
ANDREWS HOT WATER RADIATOR 1911

W. ANDREWS.
HOT WATER RADIATOR.
APPLICATION FILED JULY 16, 1910.

989,751. Patented Apr. 18, 1911.

Witnesses:
F. A. Javors
Mikel Rittertcofer

Inventor:
William Andrews

Attorney.

William Andrews

F. W. Wardlaw
HAWKS RADIATOR 1915
J. D. YOUNG.

STEAM OR HOT WATER RADIATOR.

SMITHS BOILERS WESTFIELD 1900
CRAMER TEXTILE MILL HUMIDIFICATION
CARRIER TEXTILE MILL CONDITIONING
CARRIER DRYING SYSTEM 1921
CARRIER SPRAY HUMIDIFIER 1907
CARRIER SPRAY HUMIDIFIER 1906
KROESCHELL AND SEDLACEK PATENT
KROESCHELL CO₂ ICE MACHINE

KROESCHELL
CARBONIC ANHYDRIIDE SYSTEM

SAFE
ECONOMICAL
EFFICIENT

FOR
ICE MAKING
AND
REFRIGERATION

Catalog And Information On Request
KROESCHELL BROS. ICE MACHINE CO.
MAIN OFFICE AND WORKS
472 W. ERIE ST., CHICAGO, ILL

EASTERN OFFICE
50 CHURCH ST., NEW YORK, N. Y.

The Carbonic Anhydride System of Refrigeration
GIVES THE BEST ECONOMY AND EFFICIENCY WITH SAFETY IN OPERATION
No Odor No Explosions

OUR MARINE AND LAND TYPE MACHINES OPERATING IN HUNDREDS OF PLANTS GIVE
BEST RESULTS EVER OBTAINED...

KROESCHELL BROS. ICE MACHINE CO.
29-39 Erie Street CHICAGO, ILL.
Ventilation
Complete Air Conditioning Installations
Cooling—Refrigerating—Washing

WHEREVER comfort and efficiency require cooled or refrigerated air, Wittenmeier-Vitolyzed-Air equipment delivers it.

In hundreds of theatres, hotels, clubs, restaurants, apartment houses, schools, hospitals, and industrial plants our installations give perfect service.

Simple in design, construction and in operation, once installed they become almost automatic, requiring a minimum of time on the part of mechanic or engineer.

No matter what problem of cooling or refrigeration presents itself to you, we have sometime, somewhere faced and solved a problem similar in its main essentials—and installed the necessary apparatus.

Our experience is at your service. Full information supplied gladly upon request.

A Few Representative Installations

CAPITOL THEATRE, New York, N. Y.
WARNER BROS. THEATRE, New York, N. Y.
KEITH'S FORDHAM, New York, N. Y.
LOEW'S NEW ROCHELLE, New Rochelle, N. Y.
FOX ACADEMY OF MUSIC, New York, N. Y.
UNITED ARTISTS THEATRE, Los Angeles, Calif.
METROPOLITAN THEATRE, Boston, Mass.
PTTHIAN TEMPLE, New York, N. Y.
ELKS CLUB, Union Hill, N. J.
MASONIC TEMPLE, Kansas City, Mo.
ILLINOIS ATHLETIC CLUB, Chicago, III.
UNION LEAGUE CLUB, Chicago, III.
K. T. COUNTY COURT HOUSE, New York, N. Y.
FEDERAL RESERVE BANK, Chicago, Ill.
U. S. NAVAL HOSPITALS, San Diego, Calif.
CONCOURSE PLAZA APTS., New York, N. Y.
raleigh APTS., New York, N. Y.
WEYLIN HOTEL, New York, N. Y.
MONTAUK POINT HOTEL, Montauk Point, N. Y.
RITZ-CARLTON HOTEL, Boston, Mass.
NEW BEDFORD HOTEL, New Bedford, Mass.
AMBASSADOR HOTEL, Chicago, III.
WINDERMERE HOTEL, Chicago, III.
AUGUSTANIA FATHERS, Staten Island, N. Y.
BOARD OF EDUCATION, Chicago, Ill.
N. Y. TELEPHONE COMPANY, New York, N. Y.
NATIONAL CITY BANK, New York, N. Y.
Wrigley Building, Chicago, Ill.
KINGS COUNTY HOSPITAL, Brooklyn, N. Y.
CITY OF NEW YORK HOSPITAL, Welfare Island, N. Y.
NORTH COMMUNITY HOSPITAL, Glen Cove, N. Y.
MICHIGAN CHILDREN'S HOSPITAL, Detroit, Mich.
SUNNYSIDE CENTRAL S. E. HOSPITAL, Paducah, Ky.
NORTHERN PACIFIC HOSPITAL, St. Paul, Minn.
LUCKY PLATT DEPT. STORE, Poughkeepsie, N. Y.
SOREN DEPT. STORE, Pittsburg, Pa.
CURTIS CANDY CO., Chicago, Ill.
ALBERT PICK & CO., Chicago, Ill.
TELEON BALLROOM, Chicago, Ill.

One Contract---One Responsibility

WITTENMEIER-VITOLYZED-AIR
1926 BROADWAY—NEW YORK CITY

Air washer and eliminator as installed by Wittenmeier-Vitolyzed-Air
WITTENMEIER COOLING APPARATUS 1911

1,003,129.

Patented Sept. 12, 1911.

Inventor:
Frederick Wittenmeier

Witnesses:
Char. H. Buell
F. T. Chase
REFERENCES AND FURTHER READING

1952  Father of Air Conditioning (Willis Haviland Carrier), Margaret Ingels, Country Life Press, Garden City, USA.
2006  Frank Lloyd Wright's Larkin Building, Jack Quinan, University of Chicago Press.
2012  Weathermakers to the World, Carrier Corporation, USA.
2021  20th Century Air Conditioning, David Arnold, ASHRAE.

HVAC System and Equipment Plans, Sections and Drawings are from The Engineering Record magazine of New York. Other information is from the United States Patent Office, the Heritage Group Archive and website.