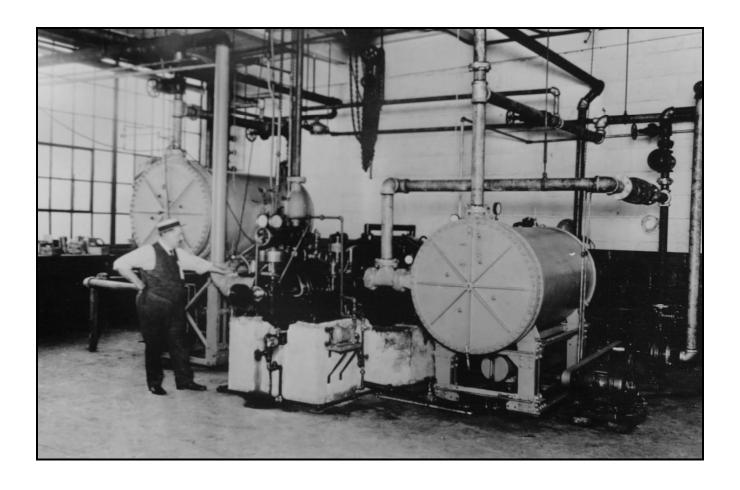
Carrier Engineering Corporation



Theatres are listed in alphabetical order by name A-P

Before You Compare Mere Bids on Air Conditioning ... Consider These Points



Responsibility v v v

When you purchase an air conditioning system to whom will you look for its satisfactory installation and operation?

If you purchase separate pieces of equipment, you also will split the responsibility. The sale of a Carrier System for Air Conditioning is not a sale of equipment, but is a guarantee of results... a binding clause in every Carrier order.

Results v v

Will results be guaranteed? Will you be assured ease of operation and maintenance, combined with economy?

Each Carrier System is designed and installed to provide exactly the conditions desired in any theatre. Installation, operation and maintenance costs are as low as consistent in a system providing complete air conditioning.

Service + + +

How long will a specially trained service department of a permanent, financially responsible organization be available after the installation of your equipment?

The Carrier organization . . . a recognized organization of more than twenty-five years' standing . . . backs every installation with a guarantee to render the utmost in service as long as the theatre stands.

Air Distribution + + +

Will the conditioned air be distributed uniformly throughout the entire house, for the complete comfort of every patron?

The Carrier System assures positive and uniform air distribution . . . so that the top seat in the balcony is as comfortable as the choicest seat in the orchestra. It is designed to cleanse, purify and deliver into the theatre any desired amount of outdoor air at all seasons . . . providing good ventilation always, consistent with practical economy of operation.

Temperature and Humidity Control * * *

Will you be able to control temperature and humidity . . . especially humidity . . . within a reasonably limited variation from the ideal conditions desired?

The Carrier System is the only system which will give you positive and automatic control of the conditions which create maximum comfort . . . that is, temperature, humidity and air movement . . . which affords the flexibility necessary to create these comfort conditions regardless of the size of the audience, the season or the outdoor weather.

Refrigeration v v v

Will the air conditioning system include refrigeration . . . without which it is impossible properly to cool and dehumidify the air during the greater portion of the year? Will the refrigeration machine be simple and compact . . . will it use a safe refrigerant? . . . will it be absolutely dependable under all operating conditions?

Carrier Centrifugal Refrigeration is a component part of every Carrier System for Air Conditioning. Operation is simple, nearly fool-proof and almost entirely automatic. The refrigerant is a harmless liquid. Carrier Centrifugal Refrigeration machines are the most efficient and dependable machines available for theatre cooling.

Silence v v v

Will the air conditioning system permit presentation of sound pictures without amplification to the extent of distortion and bad reproduction?

The Carrier System is guaranteed not to produce sounds disturbing to reproduction... or to recording in the sound studios. It is the only system guaranteed on a scientific db. basis as to sound level.

Efficiency and Maintenance * * *

What weight are you placing on yearly operating efficiency and maintenance? How much will refrigerant, oil, power, water, cleaning and repairing cost?

The inherent characteristics of the whole Carrier System . . . and particularly the Carrier Centrifugal Refrigeration Machine . . . provide the lowest overall operating costs and the highest efficiency ever attained in complete air conditioning.

The Carrier System is not expensive . . . it is within the reach of any progressive theatre, regardless of size. The cost of owning a Carrier System is the very lowest for the service rendered.

Carrier Engineering Corporation

NEWARK, NEW JERSEY

OFFICES: NEW YORK, PHILADELPHIA, BOSTON, CHICAGO, CLEVELAND, WASHINGTON, DETROIT, DALLAS, LOS ANGELES

EXPORT DIVISION: 505 FIFTH AVENUE, NEW YORK

CARRIER ENGINEERING COMPANY, LTD. CARRIER LUFTTECHNISCHE GESELLSCHAFT
LONDON, PARIS, BOMBAY, CALCUTTA, JOHANNESBURG
STUTTGART, BERLIN

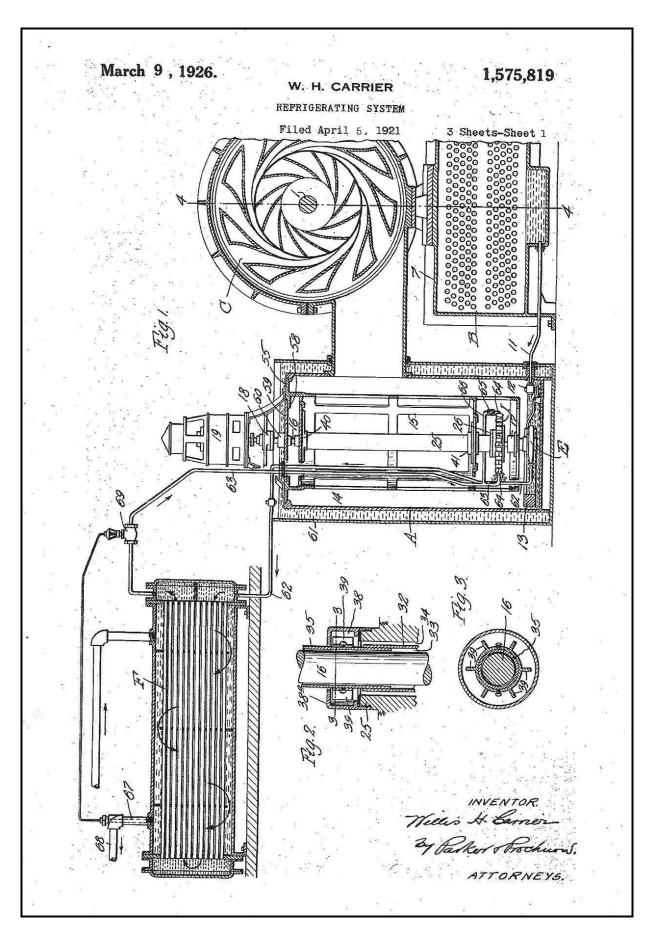
Manufactured Weather makes "Every day a good day"

Theatre owners, architects and engineers are invited to investigate the results accomplished by the Carrier System for Air Conditioning . . to compare these items which represent the differences between complete air conditioning and systems which only approximate complete results. Our engineers will consult with you at your convenience.

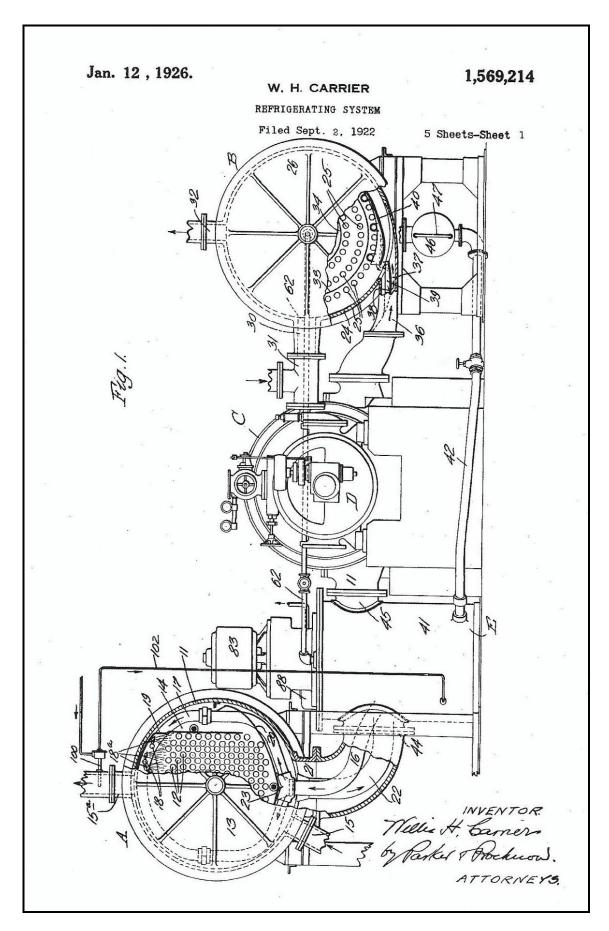


Patrons at these Theatres Breathe Carrier Conditioned Air

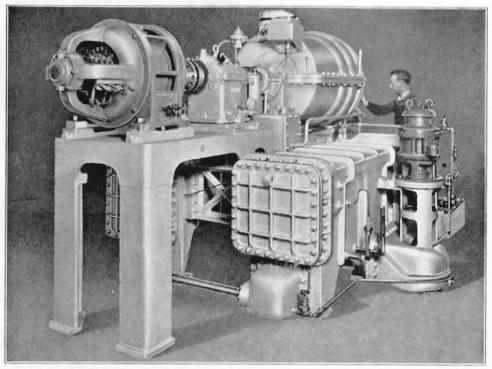
MEMPHIS, TENN. ATLANTA, GA. Pantage's* Keith's: Howard MIAMI, FLA. BEAUMONT, TEX Olympia Strand BROOKLYN, N. Y.
Congress; Madison; Ken-MOBILE, ALA. Saenger NEWARK, N. J. BUFFALO, N. Y. Branford NEW YORK CITY Shea's Hippodrome Rivoli: Rialto; Paramount: CHARLOTTE, N. C. Roxy's; Ziegfeld; Tremont; Carolina Coliseum; Franklin; Hamil-ton; Jefferson; Keith's Pal-ace; Madison Square Gar-den*: Midway (Rozy) CHATTANOOGA, TENN. Ticoli CHICAGO, ILL.
Asalon"; Capitol"; Cohan's
Grand* OMAHA, NEBR. Or pheum CINCINNATI, OHIO PATERSON, N. J. Fountain CLEVELAND, OHIO Fabian PITTSBURGH, PA. Loew's Granada Stillman; Loew's State State; Allen RICHMOND, VA. COLUMBUS, OHIO Eastern; Clinton; James DALLAS, TEX. State RIDGEWOOD, L. I. Beacon Palace SAN ANTONIO, TEX. GREENSBORO, N. C. Teras Carolina SAN BERNARDINO, CAL. HAVANA, CUBA West Coast BAVANNAH, GA. El Encanto HOBOKEN, N. J. Stanley SHAMOKIN, PA. HOUSTON, TEX. Tezan; Iris INDIANAPOLIS, IND. Capitol ST. JOSEPH, MO. Missouri* ST. LOUIS, MO. JACKSONVILLE, FLA. Missouri: Ambassador* Florida JERSEY CITY, N. J. ST. PETERSBURG, FLA. Florida Stanley STEUBENVILLE, OHIO JOLIET, ILL. Grand Rialto Square TAMPA, FLA. LAKELAND, FLA. Franklin: Tampa TRENTON, N. J. Polk LOS ANGELES, CAL. Metropolitan; Gumbiner Lincoln



Patent for Carrier centrifugal chiller, filed 1921, granted 1926. Features the early square heat exchangers (evaporator and condenser)



Patent for Carrier centrifugal chiller, filed 1922, granted 1926. Has now adopted circular heat exchangers



A complete Carrier Centrifugal Refrigeration Unit, showing the cooler, the centrifugal compressor, and the condenser. A unit this size would be used to cool and dehumidify a 1500 seat theatre

Carrier Centrifugal Refrigeration

One of the many important and exclusive features of the Carrier System for cooling and dehumidifying the air in theatres and public buildings is Carrier Centrifugal Refrigeration.

There are other machines which will produce cooling, but none so compact, so simple and dependable in operation, so entirely safe, and so efficient as the Carrier Centrifugal Unit. This machine has been invented, designed, and developed by Carrier Air Conditioning Engineers specifically to meet the problems of air cooling and dehumidification within buildings.

The machine occupies about 1-5

of the space required for other refrigeration equipments of like capacity. The centrifugal principle permits operation by a directly connected motor. The unit in appearance and operation is almost exactly like the ordinary motor driven centrifugal pump. The refrigerating medium is not a gas, but a harmless liquid—"Carrene." The control of operation and temperature is automatic.

Carrier Centrifugal Refrigeration is combined with the complete Car-



rier System which cleanses the air, automatically establishes and controls ideal conditions of Temperature and Humidity, and diffuses the conditioned air uniformly through the theatre.

The whole is backed by the long experience of a trained organization of Air Conditioning Specialists. A part of each Carrier Contract is the guarantee to produce specified results.

Theatre owners, architects and engineers are invited to investigate the results accomplished by this new complete unit in Carrier Cooled Theatres. Write for the book "Theatre Cooling," also a list of Carrier Cooled Theatres, and ask for a visit from one of our engineers.

Carrier Figineering Corporation

Offices and Laboratories

Newark, New Jersey

NEW YORK

PHILADELPHIA

BOSTON

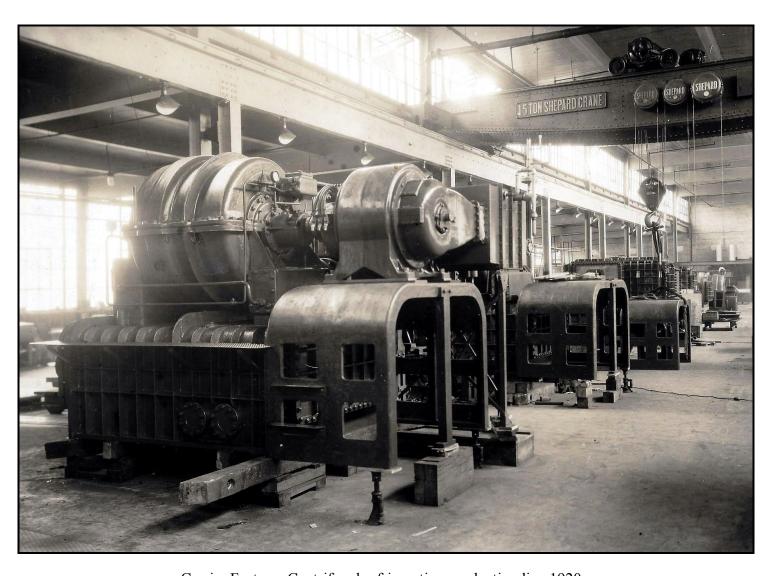
CHICAGO

CLEVELAND

KANSAS CITY

LOS ANGELES

WASHINGTON



Carrier Factory: Centrifugal refrigeration production line 1920s

"Every day a good day"

HAT has been the Carrier slogan for years. Long before any theatre in the country took advantage of the tremendous attraction offered by a healthful, comfortable atmosphere. Carrier was designing and installing equipment in hundreds of industries to make "Every day a good day" for manufacturing processes or for the health, comfort and efficiency of workers.

C Then some progressive showmen saw that Manufactured Weather would make "Every day a good day" for their patrons and their box office. Consider the Rivoli, on Broadway, the first theatre in New York City to have a complete air conditioning system. This Carrier Conditioned Theatre is entering its third year of operation. With absolute dependability the Carrier equipment has functioned to create and maintain ideal air conditions in the theatre regardless of the season, the weather, or the size of the crowd.

C There are now more than fifty theatres from Los Angeles to Broadway which boast the fact that they

<u>Carrier Conditioned</u> Theatres

The same system is available for the smaller theatres. There is yet time before Summer to make your theatres Carrier Conditioned Theatres. Our engineers are ready to consult with owners and architects. Ask for a visit. Write for the book, "Theatre Cooling and Conditioning."

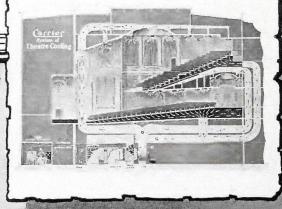
A typical Carrier Conditioned Theatre. Equipped to cool and dehumidify the air in Summer, to warm and humidify in Winter.

Carrier Engineering Corporation

Offices and Laboratories

NEWARK, NEW JERSEY
New York Chicago.
Boston Cleveland
Philadelphia Kansas City
Los Angeles

Washington



Avalon Theatre

CHICAGO, ILLINOIS



Date Built: 1927

Seating Capacity: 2250

Owner: Alexander R Boyd then Warner

Architect: John Eberson

Air Conditioning: Carrier Engineering Corporation



Under construction



Boy Theatre Philadelphia, Pennsylvania



1928

Date Built: 1928

Seating Capacity: 2450

Owner: Alexander R Boyd then Warner

Architect: Hoffman-Henon

Air Conditioning: Carrier Engineering Corporation

Broad Theatre

COLUMBUS, OHIO



Date Built: 1927

Seating Capacity: 2800

Owner: Loew's United Artists

Architect: Unknown

Air Conditioning: Carrier Engineering Corporation

Broadway Theatre

PORTLAND, OREGON



Date Built: 1926

Seating Capacity: 1832

Owner: Unknown

Architect: Unknown

Air Conditioning: Carrier Engineering Corporation

Carolina Theatre

CHARLOTTE, NORTH CAROLINA



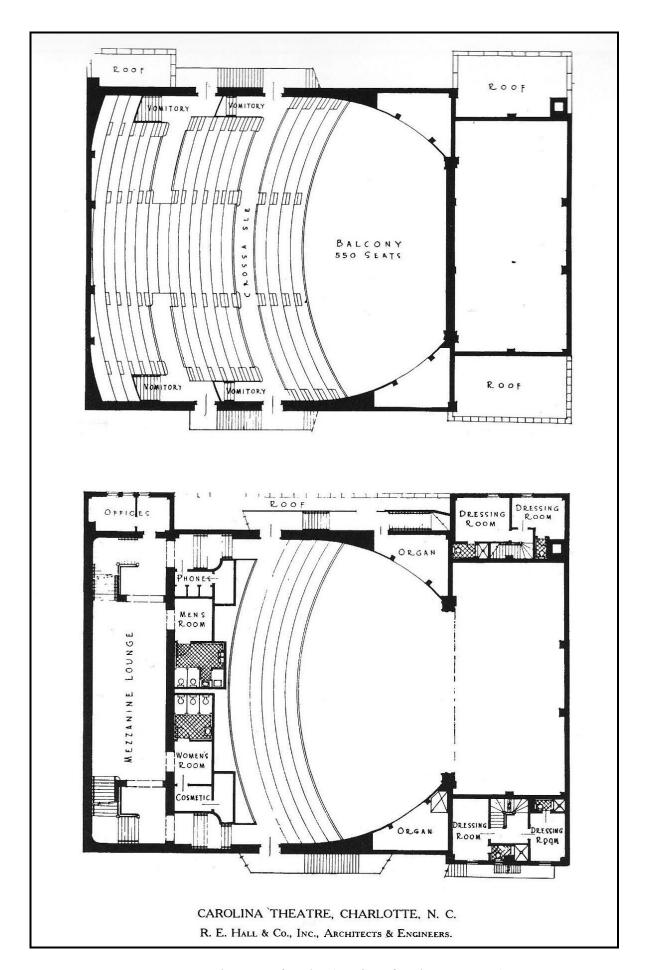
Date Built: 1927

Seating Capacity: 1100

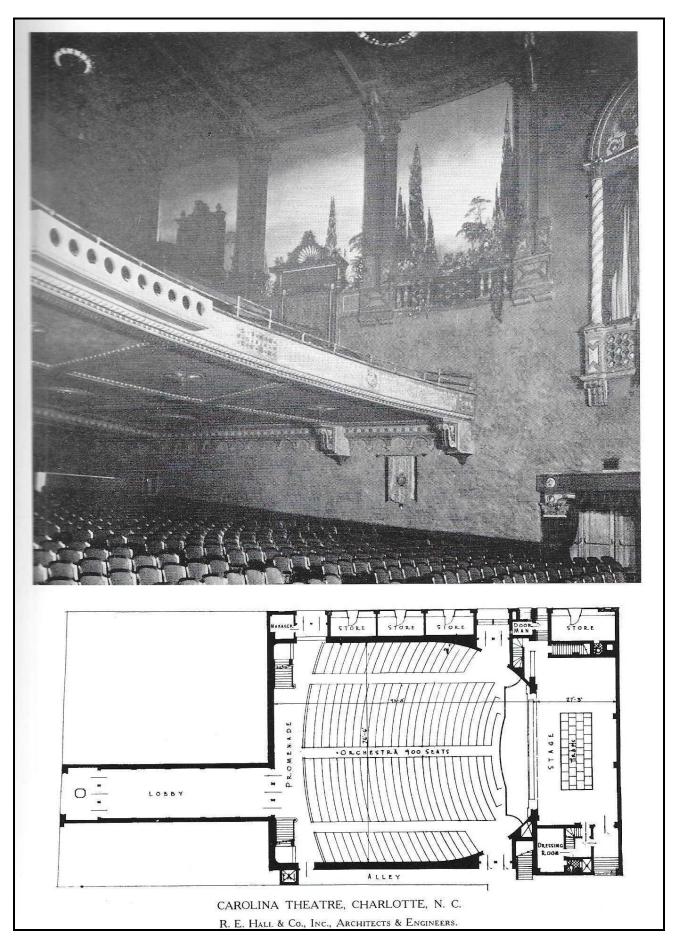
Owner: Operated by H F Kinsey for Paramount

Architect: R E Hall

Air Conditioning: Carrier Engineering Corporation



American Theatres of Today (reprint of Volume I, 1927)



American Theatres of Today (reprint of Volume I, 1927)



Now—the Carrier System is available for the Smaller Theatres

The first-class small theatres and neighborhood houses having 900 or more seats, will now find the Carrier System within reach as a highly profitable investment.

We have instituted a special department devoted to the design and installation of complete Carrier Cooling and Air Conditioning systems in the smaller theatres.

The same outstanding features that have made Carrier Cooled Theatres famous from Los Angeles to Broadway are retained in the new design adapted to the small houses.

The system includes the safe, simple, automatic Carrier Centrifugal Refrigeration machine. The same automatic instruments are used to create and control ideal conditions of Temperature and Humidity every day in the year. The system is equipped to warm and humidify the air in Winter as well as to cool and dehumidify the air in Summer.

Finally, the system is backed by the guarantee of results which Carrier has attached to every contract during 25 years of experience in the specialized field of air conditioning.

Here are the first small houses to enter the group of Carrier Cooled Theatres:

Capitol, Shamokin, Pa., 1,200 seats W. H. Lee, Archt.
Eastern, Columbus, O., 1,000 seats Clinton, Columbus, O., 1,000 seats Clinton, Columbus, O., 1,000 seats H. C. Holbrook, Archt.

Operators of Theatre Chains, Owners of Individual Theatres and Theatre Architects are invited to investigate this new adaptation of the Carrier Patented System. Write for the Book, "Theatre Cooling," and ask for a visit from one of our Engineers.

Carrier Figineering Corporation

OFFICES and LABORATORIES NEWARK, NEW JERSEY

New York

Philadelphia

Boston

Chicago

Cleveland

Los Angeles

Kansas City

Carolina Theatre

GREENSBORO, NORTH CAROLINA

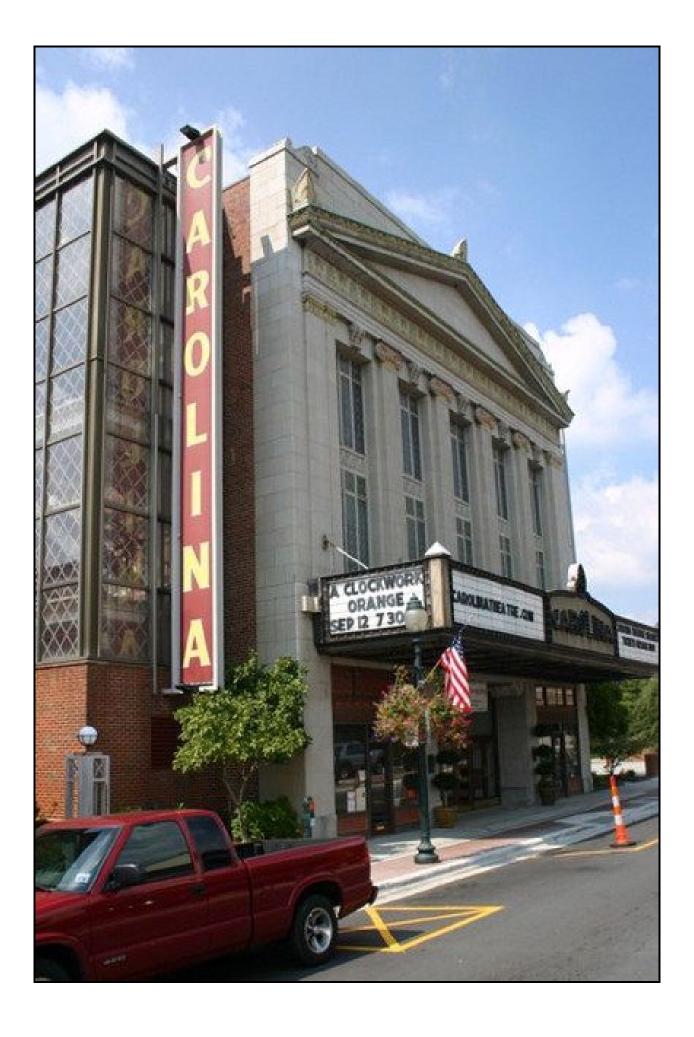


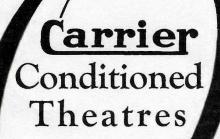
Date Built: 1927

Seating Capacity: 2200 Owner: Saenger-Publix

Architect: James M Workman

Air Conditioning: Carrier Engineering Corporation







Dening The arolina

Greensboro, N. C.

Designed by J. M. Workman, Archt.

Owned and Operated by

Saenger-Publix Theatres, Inc.

Size-2000 Seats

The



efferson

Beaumont, Texas

Designed by Emil Weil, Archt.
Owned and Operated by

Jefferson Amusement Company

Size_1830 Seats

It has been our privilege to work in the most intimate association with the architects in the design and installations of complete air conditioning equipment for these new theatres. We have assumed complete responsibility for temperature and humidity control; for the perfect distribution of conditioned air; for the reliable, safe and dependable operation of the Carrier Centrifugal Refrigeration System, which is to operate in conjunction with the air conditioning system during humid seasons.

¶ Operators of Theatre Chains, Owners of Individual Theatres, Theatre Architects and Engineers are invited to investigate installations of the Carrier System of Air Conditioning in the smaller theatres; the same system which has met with such unqualified success in the Roxy, the Paramount and other great Metropolitan houses.

Write for the book "THEATRE COOLING AND CONDITIONING"

Ask for a Visit from one of our Engineers.

Carrier Fingineering Corporation

Offices and Laboratories Newark, N. J.

NEW YORK PHILADELPHIA

BOSTON

CHICAGO

WASHINGTON

CLEVELAND

KANSAS CITY

LOS ANGELES

Clinton Theatre

COLUMBUS, OHIO



Mural

Date Built: 1927

Seating Capacity: 1500

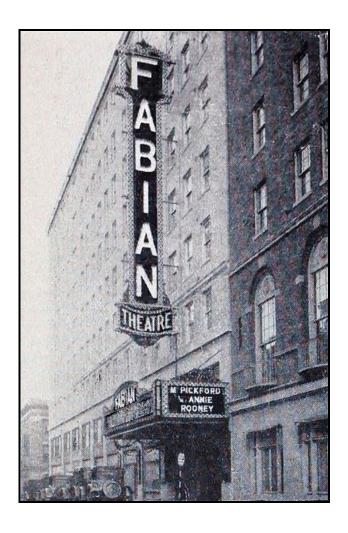
Owner: J Real Neth Circuit

Architect: Unknown

Air Conditioning: Carrier Engineering Corporation

Falian Theatre

PATERSON, NEW JERSEY



Date Built: 1925

Seating Capacity: 3263 Owner: Jacob Fabian

Architect: Fred Wesley Wentworth

Air Conditioning: Carrier Engineering Corporation

Fairmount Theatre

BRONX, NEW YORK CITY



Date Built: 1929

Seating Capacity: 2559

Owner: Loew's

Architect: Joseph Orlando

Air Conditioning: Carrier Engineering Corporation

Florida Theatre

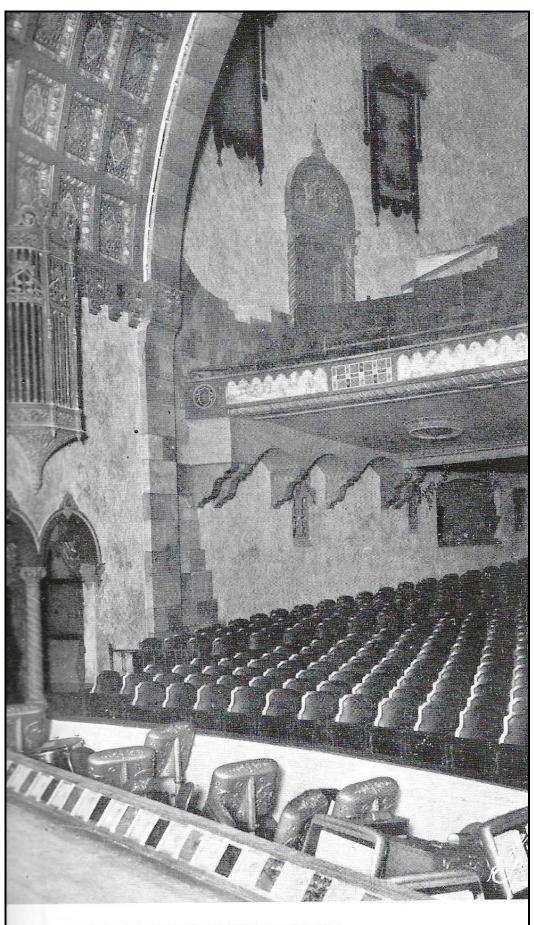
JACKSONVILLE, FLORIDA



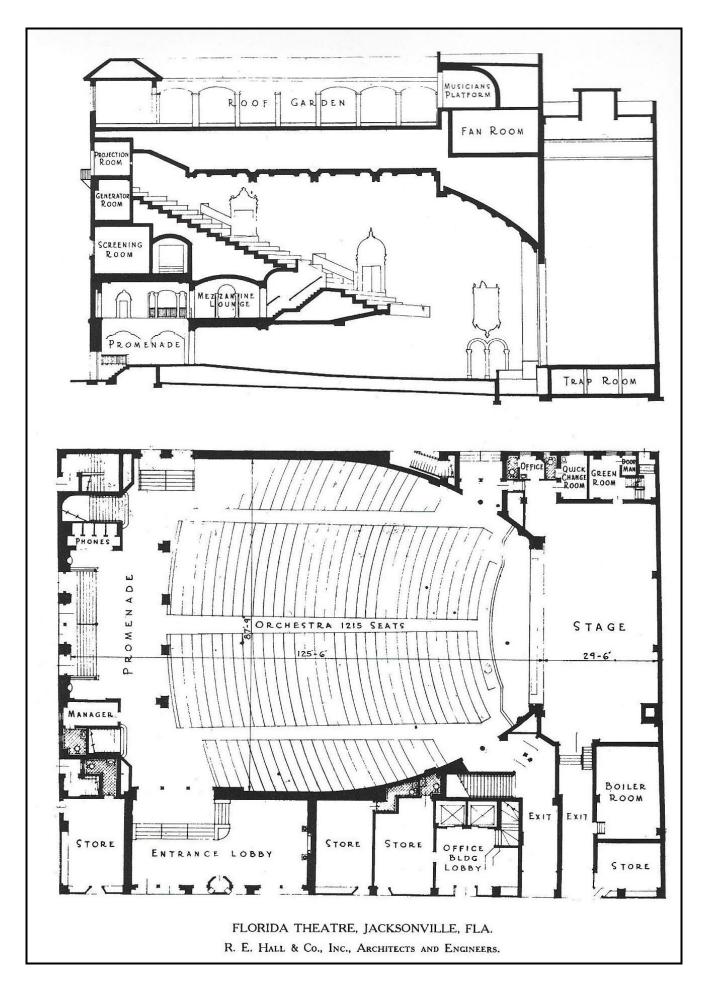
Date Built: 1927

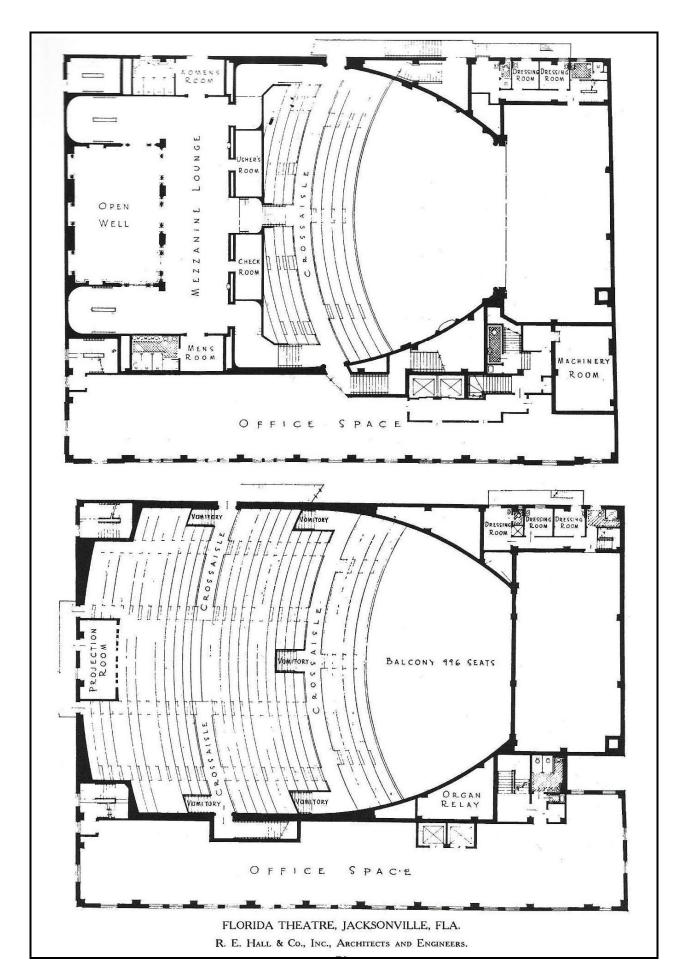
Seating Capacity: 1978 Owner: Balaban & Katz Architect: R E Hall & Co

Air Conditioning: Carrier Engineering Corporation



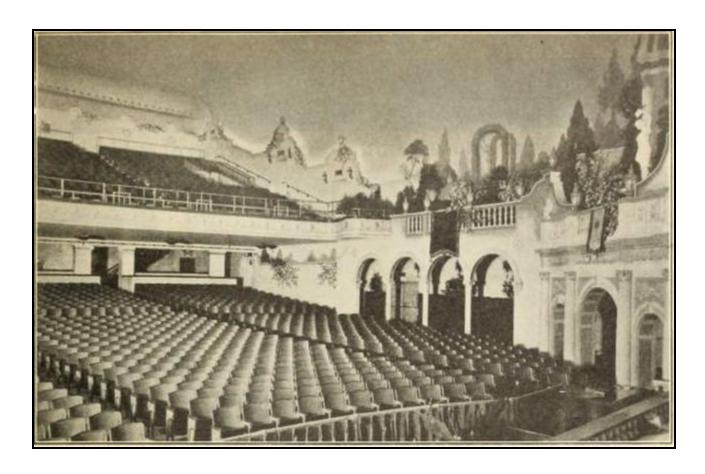
FLORIDA THEATRE, JACKSONVILLE, FLA. R. E. Hall & Co., Inc., Architects and Engineers.





Granada Theatre

CLEVELAND, OHIO



Date Built: 1927

Seating Capacity: 2165

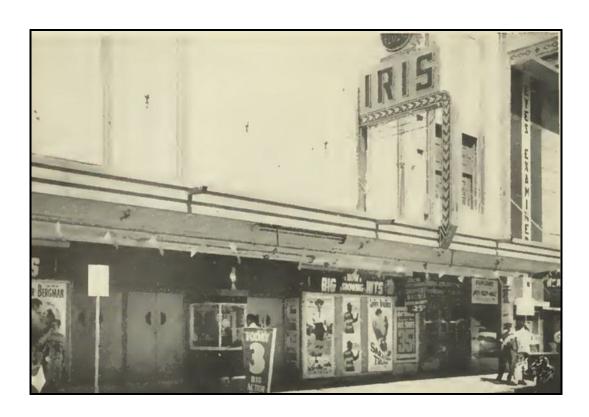
Owner: Loew's

Architect: Unknown (atmospheric style)

Air Conditioning: Carrier Engineering Corporation

Iris Theatre

HOUSTON, TEXAS



Date Opened: 1919 existing renamed Iris

Seating Capacity: 934 Owner: Will Horwitz Architect: Unknown

Air Conditioning: Carrier Engineering Corporation Refrigeration: Carrier centrifugal chiller 1925 located in the Texan Theatre across the street serving chilled water storage tank

Tellerson Theatre

BEAUMONT, TEXAS



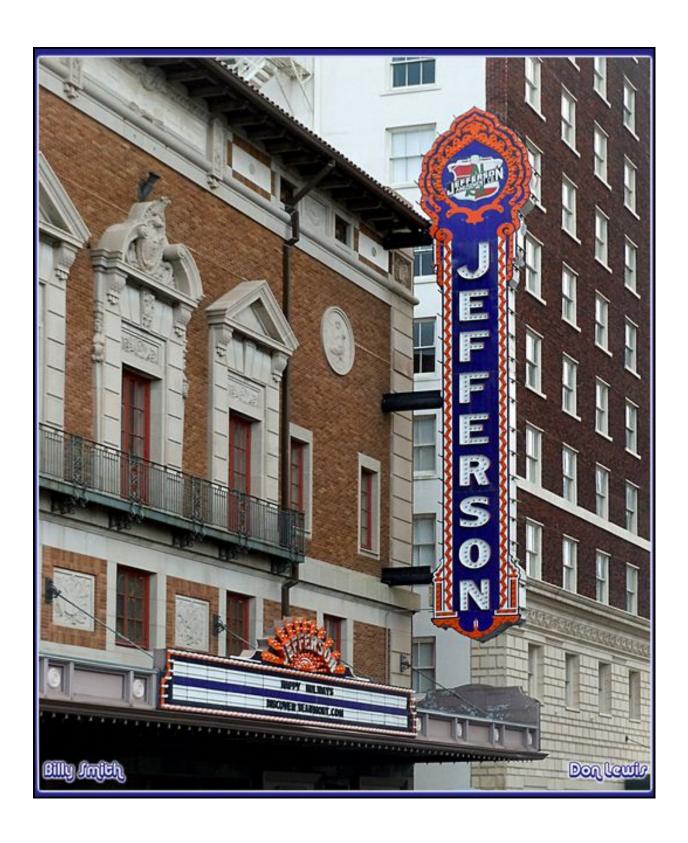
Date Built: 1927

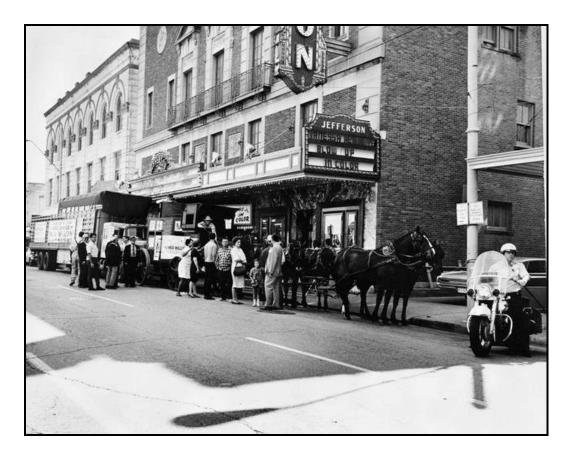
Seating Capacity: 1878

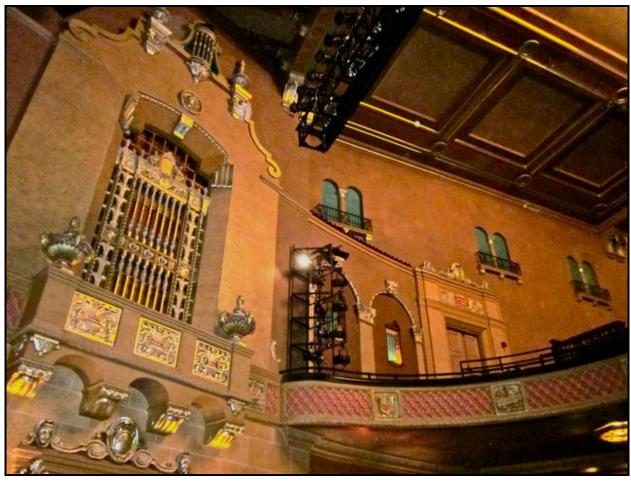
Owner: Jefferson Amusement Company

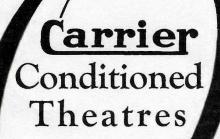
Architect: Emile Weil

Air Conditioning: Carrier Engineering Corporation











Dening The arolina

Greensboro, N. C.

Designed by J. M. Workman, Archt.

Owned and Operated by

Saenger-Publix Theatres, Inc.

Size-2000 Seats

The



efferson

Beaumont, Texas

Designed by Emil Weil, Archt.
Owned and Operated by

Jefferson Amusement Company

Size_1830 Seats

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Ask for a Visit from one of our Engineers.

Carrier Fingineering Corporation

Offices and Laboratories Newark, N. J.

NEW YORK PHILADELPHIA

BOSTON

CHICAGO

WASHINGTON

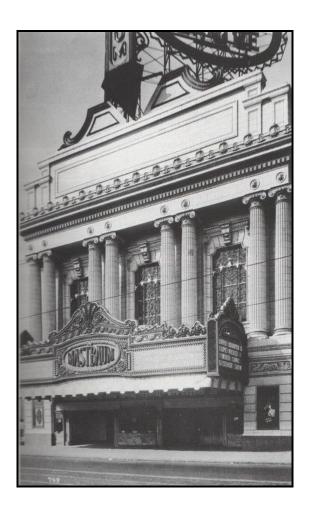
CLEVELAND

KANSAS CITY

LOS ANGELES

Masthaum Theatre

PHILADELPHIA, PENNSYLVANIA

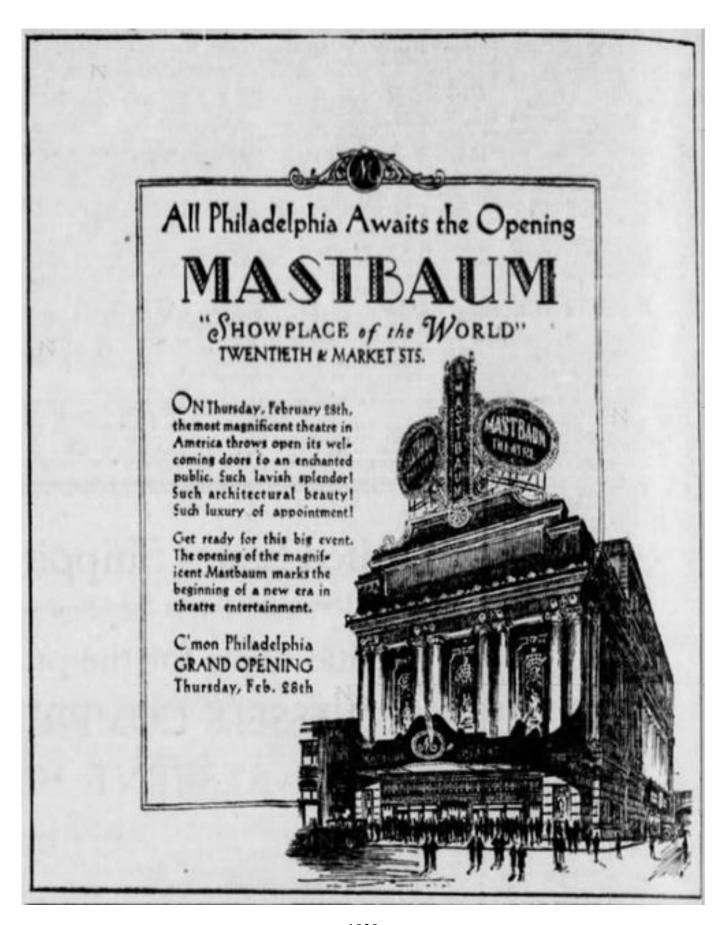


Date Built: 1929

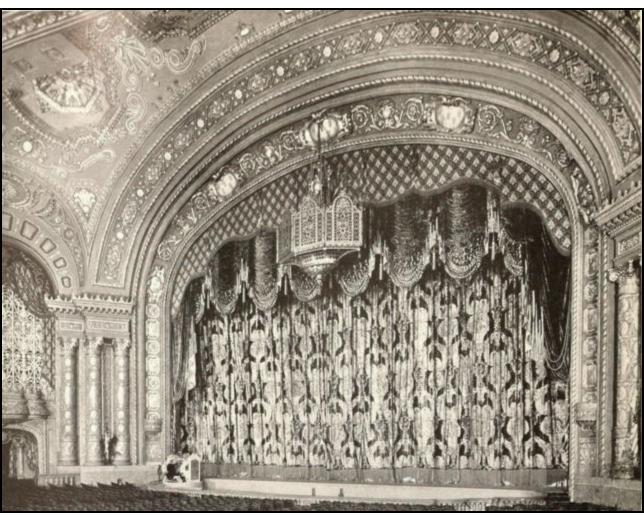
Seating Capacity: 4717 Owner: Warner Bros

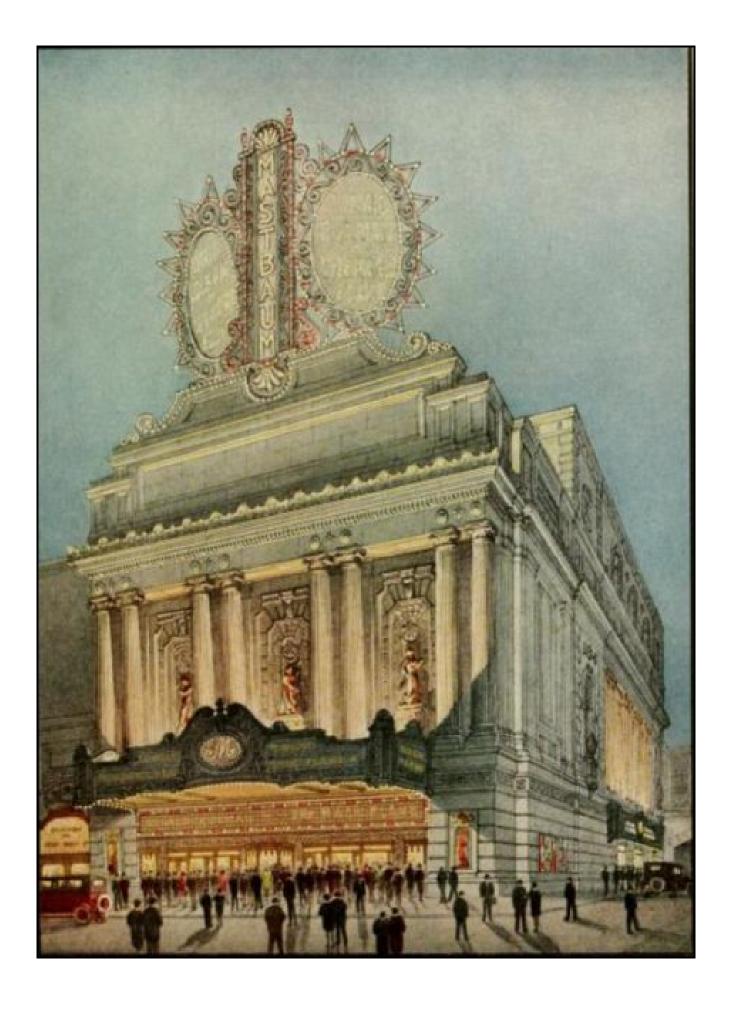
Architect: Hoffman-Henon

Air Conditioning: Carrier Engineering Corporation









AMERICA'S FINEST MOTION PICTURE THEATRE



Innumerable Thrills . . . Splendor Beyond Description

Four more days. Then—magic beauty. Inconceivable thrills. Splendor beyond description. Opulent magnificence of the French Renaissance. Statuary, paintings, lavish charm everywhere.

Conveniences never before attempted. Elevators to the balcony. Large, luxurious smoking rooms for all. Vanity rooms for ladies. Deep cushioned chairs. Spacious lounges.

Entertainment supreme. Famous stars. Great pictures. Superb music. Exotic stage effects. It's fairyland itself!

C'mon Philadelphia.



MASTBAUM

"SHOWPLACE of the WORLD"

Grand Opening Day THURSDAY, FEBRUARY 28th



MANUFACTURED WEATHER in the MASTBAUM

ERE is another great theatre which of outside weather conditions or the size will provide for its patrons not of the crowd.

only good entertainment but, with Manufactured Weather, the utmost in health and comfort.

Those progressive theatres which provide Manufactured Weather, as produced only through the Carrier System for Air Conditioning, assure their patrons an ideally comfortable and a scientifically healthful atmosphere every day in the year, regardless



The Mastbaum

This installation in the Mastbaum, made in the closest cooperation with the Architects, Hoffman & Henon, is the fifth in the Stanley Company of America's de luxe houses. Similar installations provide Manufactured Weather in a rapidly growing and impressive list of progressive theatres in the United States and abroad.

We shall be pleased to have theatre owners, architects and engineers investigate the results accomplished by the Carrier System for Air Conditioning, and ask for a visit from one of our Engineers.

Write, too, for the Book, "Theatre Cooling and Conditioning," and the list of Carrier Conditioned Theatres.

Carrier Fingineering Corporation

Offices and Laboratories NEWARK, NEW JERSEY

New York

Philadelphia

Boston

Chicago

Cleveland

Washington

Kansas City

Los Angeles

Metrpolitan Theatre

LOS ANGELES, CALIFORNIA



Date Built: 1923

Seating Capacity: 6214 Owner: Sid Grauman

Architect: William Lee Woollett

Air Conditioning: Carrier Engineering Corporation

Refrigeration: Carbondale Machine Company

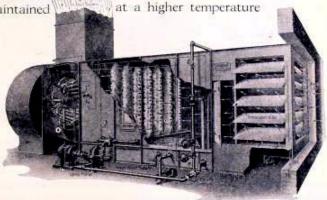


Cooled, Washed and Dehumidified in Summer — Warmed, Washed and Humidified in Winter

A vital Conditioning shown in this illus theatre from out of doors is washed and purified and the ally fixed at the maximum comfort the season and the crowd. During the cooled by Carrier Centrifugal Refrigeration. is cooled and its excess moisture condensed. water within the spray chamber is maintained so that moisture is added to the air to produce a comfortable and healthful condition of humidity. Automatically controlled heaters located in the air ducts leading to the theatre heat the air when necessary. sluggish, direct heating system of the theatre is eliminated.

The Carrier System is an assembly of equipment guaranteed to maintain uniform conditions of Temperature, Humidity and Air Purity in the theatre

element in the Carrier System of Theatre Cooling and Air is the spray chamber with its contingent parts as tration. All of the air which is drawn into the must pass through this chamber. Here the air humidity and temperature are 'automatic-point required according to the weather, hot, humid seasen, the spray water is In contact with this spray the air ondensed.



every day in the year. It is the development of more than twenty years of specialized Air Conditioning experience.—A recent development provides the same complete system for the fine, small theatres.—Describe your theatres.—Ask for the book, "Theatre Cooling."

Carrier Fingineering Corporation

Offices and Laboratories

Newark, N. J.

NEW YORK

PHILADELPHIA

BOSTON

CHICAGO

CLEVELAND

KANSAS CITY

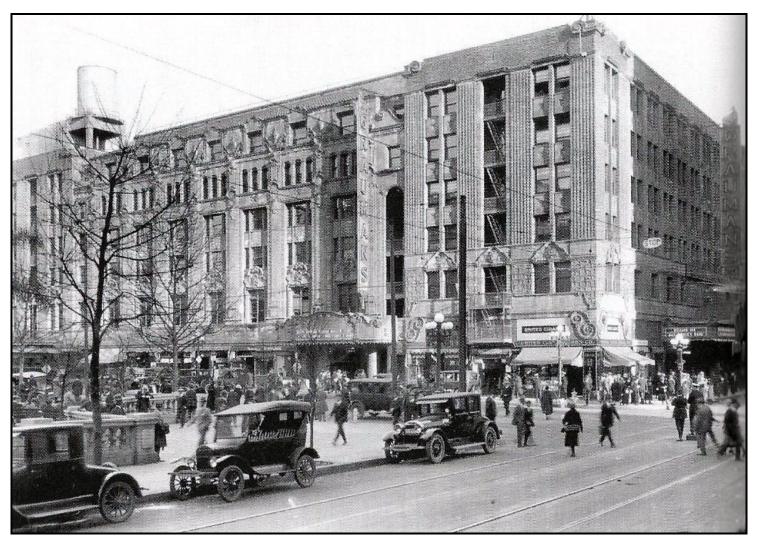
LOS ANGELES



Entrance in 1923



Proscenium



Metropolitan Theatre 1924 Photograph from *Theatres in Los Angeles*, Cooper, Hall & Wanamaker, Arcadia, 2008

Despite this early recognition of its potential, CEC's first bypass system was not installed until 1921, in Sid Grauman's Metropolitan Theatre in Los Angeles. L. L. Lewis sketched out his ideas for the system in a company memo of 9

99

newspaper reported that the air-conditioning system accounted for \$115,000 of that total.83 Construction costs were only part of the expense of airconditioning the theater. Operating costs for the installation ran \$500 per month during the winter and rose to \$2,200 in the summer, even with bypass recirculation.84 To some such an expenditure was an essential part of a new theater, for as one engineer noted, "builders of new theatres would no more leave out cooling than they would neglect heating, for the public demands it and experience has demonstrated that it pays."85 But for Grauman in 1920, when planning for the theater began, including air conditioning was an innovative step. In 1923 he told a Los Angeles publicist, "The public doesn't demand anything . . . It is only after a thing is created that the public demands it. If it were possible to consult the public and discover what it wants, the showman's job would be easy."86 Indeed, Grauman's Million Dollar, Egyptian, and Rialto theaters were all equipped with evaporative cooling systems without refrigeration.87 The operating engineers at the Million Dollar Theatre created extra cooling during hot weather by carrying cakes of ice on their backs to deposit in the water tank of the air washer. Despite the high costs of purchase and operation, Lewis calculated that in any theater an increase of slightly less than 2 percent in attendance would pay the cost of an installation.88

If CEC struggled to make air conditioning affordable, the company also attempted to make it comfortable. By controlling the relative humidity, the company believed it would be possible to allow the temperature to rise and still achieve comfortable conditions. Indeed, CEC let temperatures rise as high as 78–80 degrees in its installations but kept the relative humidity between 45 percent and 55 percent. This combination appears to reflect Carrier's industrial experience with the "sweat point." The firm claimed that under such conditions "a person will not feel a shock entering from the outside and yet the perspiration will be gradually removed from the body and from the clothing." 89

To achieve greater comfort, Lewis also designed a new distribution system for the Metropolitan Theatre that was specially adapted to air conditioning. Many theaters traditionally used an "upward" method of air distribution that proved poorly suited to the new technology. In such a system, air was introduced into the auditorium through "mushroom" ventilators (so named because of their shape) located underneath the seats. Theoretically, the air rose to the breathing zone where it was gradually warmed by body heat. This vitiated air rose upward and was exhausted through ducts in the ceiling by an exhaust fan. It was then replaced by fresh air rising from the mushroom ventilators. "The upward method," one fan manufacturer wrote enthusiastically, "is to be

200

desired wherever the architectural design makes it permissible . . . the air flows upward in accordance with the natural air currents induced by the heat of the body and the breath." ⁹⁰ As late as 1922 CEC installed just such a system in the \$2 million Granada Theatre in San Francisco. ⁹¹

For the introduction of cold air, however, this method proved disastrous, for the cold air never rose into the breathing zone, but settled on the floor. Air-conditioning engineers noted with dismay that moviegoers carried newspapers into the theater to wrap around their feet during the show. To counter this problem, Lewis installed a distribution system that introduced the conditioned air from the ceiling, which wags promptly dubbed the "upside down" system. Officially, the system was called a down-draft method of distribution.

The Metropolitan down-draft system was not a complete success. Lewis joked that the new down-draft distribution system exposed the engineer to criticism from "all of the types from red-heads to bald-heads." And apparently he received plenty of criticism over this system. He admitted later that "Grauman's proved the generally accepted point that the first of revolutionary jobs is not always perfect."94 For Boxoffice magazine, Lewis explained the problems of the Metropolitan discreetly: "Factory experience found itself in the anticipated conflict with architectural and decorative features, and handicapped by the obstacles which they imposed," he wrote. 95 The problem appears to have been a reluctance by the architect to use distributors, trumpet-shaped outlets that diffused the cold air gently over a wide area. Distributors proved effective in factory practice, but architects found their appearance objectionable in these elaborate movie palaces. In a memo to company engineers Lewis described the conflict more bluntly: "I doubt if you will work on a job with any architect or engineer who will not, sooner or later, suggest that we blow directly downward through a grille work. We tried this on the Metropolitan, the Palace, the Rivoli, the Texas, the Miami, and maybe one or two other theatres. It has failed completely on all those theatres which we name." Eventually, engineers learned how to reconcile aesthetics and technical requirements. The pan outlet, a panel hung below the discharge over which the cold air diffused, was one solution. A rival engineer acknowledged in 1926 that "at the present moment the system which is predominating is the downward system of ventilation."97

By 1922 CEC had adopted two important innovations for the successful adoption of comfort air conditioning: down-draft distribution and bypass circulation. Carrier recalled that "the successful application of the downward ventilation with independent temperature and humidity control, without the

Motion-Picture Theaters and Human Comfort

necessity of reheating, made it practicable for the first time in 1922 to air-condition theatres, both acceptably and economically."98

101

Bypass circulation was essential to any economical comfort air-conditioning system. Carrier Engineering Corp. owned Lewis's bypass patent, while rival Walter Fleisher held a patent on a similar design. Despite this legal division of rights, Carrier acknowledged that his firm installed approximately 300 air-conditioning systems that infringed upon Fleisher's patent. In the midst of the resulting litigation over the infringement of bypass rights, Carrier and Fleisher agreed to form a patent pool. In 1927 they formed the Auditorium Conditioning Corporation with the Lewis and Fleisher inventions as a core, and eventually acquired thirty-one more related patents.

The centrality of the bypass patents excited a great deal of resistance to the new corporation. York Ice Machinery Corporation filed the first test case and lost. In 1929 the triumphant Auditorium Conditioning Corporation defined its victory for potential clients:

It was shown, and agreed by the Court, that the "recirculation" of large volumes of air, by-passed beyond the Conditioning Machine, as in these methods, for the purpose of temperature and humidity control, constituted a new and important improvement in Air Conditioning. Hence, regardless of what may appear to be "different" methods of "recirculation" any form of "recirculation" employing effectively *large* volumes of air recirculated without passage through the Conditioning Machine, may be deemed an infringement of the Auditorium Conditioning Corporation's patents. ¹⁰⁰

The centrality of its system is evident in the fact that by 1946 Auditorium Conditioning Corporation had licensed an estimated 90 percent of the comfort airconditioning installations in the United States.

The real opening of the "comfort" market came, however, when centrifugal systems were introduced into motion-picture theaters. Carrier later said:

Movies closed during hot weather or showed to such small audiences that they operated at a loss. Even on cool days the inside of the theater was hot if there were many people in the audience. The heat from the people was enormous. A ventilating system did not help much. We argued that, with air conditioning, the theater need never be dark and would do a box-office business in summer because people would go there to cool off—to be comfortable. With our air conditioning, we believed we could sell the theater market without much resistance.

So, with Carrier and Lyle encouraging them, the company's sales engineers began concentrating on theater owners. The engineers not only had Carrier's new, safe, and simple refrigerating system, but also a method for introducing cleaned, cooled, and dehumidified air into a theater, without causing drafts or cold feet. This no-draft feature was achieved through a system of by-pass down-draft air distribution which Logan Lewis had designed in 1922 for Grauman's Metropolitan Theater in Los Angeles. Designed, sold, and installed before Carrier's centrifugal refrigerating machine was available, this installation used a carbon dioxide refrigerating system to cool the air. The air flowed through outlets located in the ceiling, diffused slowly downward, then entered return grilles located in the floor. Thus, Lewis accomplished the seemingly impossible feat of circulating a large volume of cooled and dehumidified air without the audience being aware of any air movement. This has caused many persons to refer to Grauman's Metropolitan Theater as "the birthplace of theater air conditioning."

BEWARE, EXHIBITORS The Voice of the Box Office Shouts: AIR CONDITIONING

DUT be sure you know what is meant by "Air Conditioning." It means the uniform distribution thruout your theatre of cleansed air that is heated and humidified (moistened) in winter; cooled and dehumidified (excess moisture removed) in summer, the distribution being accomplished without drafts and the conditions being maintained automatically regardless of outdoor weather.

Since the notably successful installation of Carrier Air Conditioning Equipment in the now famous Grauman's Metropolitan, Los Angeles, many Exhibitors have rushed plans to "cool" their theatres, such "cooling" being considered the quickest and cheapest method of kidding the public into the Box Office.

Whereupon many vendors of refrigerating machines have fallen upon fat pickings, trading upon your natural lack of engineering information. Air conditioning requires refrigeration but it cannot be accomplished with refrigeration alone. It isn't the refrigeration, it's what is done with the cooled air that counts!

You owe it to yourself, Mr. Exhibitor, to investigate this important subject fully. We'll be glad to send you a booklet which gives the unvarnished facts, or to arrange an interview so that one of our Engineers can show you some mighty interesting figures.

The public is now demanding the conditioned theatre and the big money of the immediate future will be made by those Exhibitors who listen to the Voice of the Box Office.

Carrier Engineering Corporation

Manufactured Weather to make "Every day a good day"

750 Frelinghuysen Avenue, Newark, N. J.

Boston

Buffalo

Chicago

New York

Philadelphia

Los Angeles

San Francisco



The auditorium

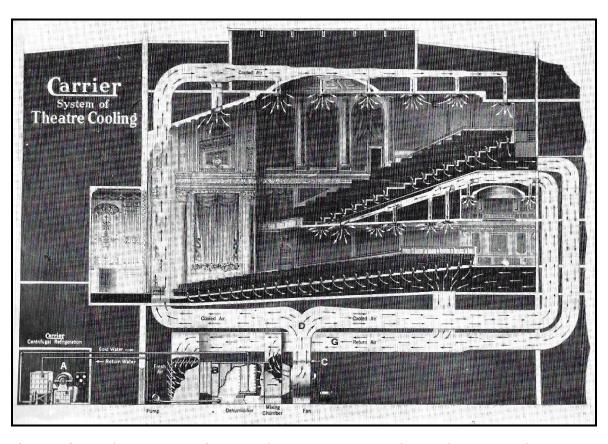
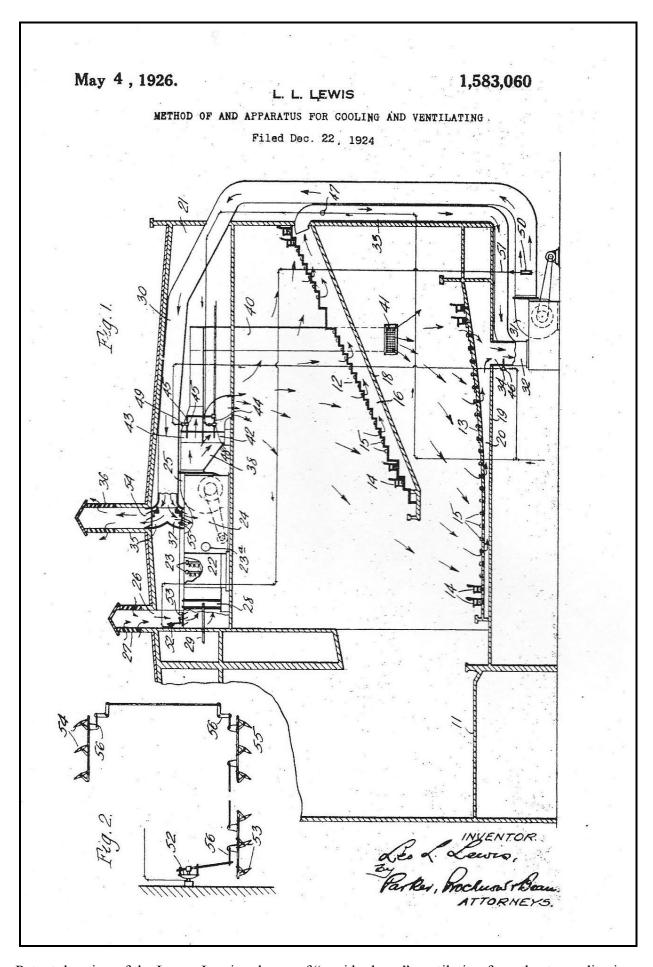


Diagram from *The Romance of Air Conditioning*, Logan Lewis, Carrier Corporation, c.1960s A picture of a Carrier centrifugal chiller (bottom left corner) has been substituted for the actual refrigeration machine used, believed to be a carbon dioxide type by the Carbondale Machine Company



Patent drawing of the Logan Lewis scheme of "upside down" ventilation for a theatre auditorium, i.e. overhead ceiling supply with under-seat low level extract

The Voice of the Box Office will not grow weaker this summer in America's Finest Theatre because Manufactured Weather is making "Every day a good day"

Mr. Sid Grauman has marked a new era in Motion Picture Showmanship by building his Metropolitan Theatre, Los Angeles, the first scientifically conditioned* theatre in the world!

Mr. Grauman will be set down in Motion Picture History as pioneering the greatest advance in the art of exhibiting since the building of the first Nickelodeon.

No Exhibitor with a seating capacity of 2,000 or more can afford to neglect this opportunity to secure the inside, detailed story of Mr. Grauman's great achievement,—a theatre so comfortable and inviting that it knows no "off-season" either summer or winter.

The current number of our private magazine *The Weather Vein*, tells the story. We will send you a copy upon request, without obligating you in any way.

Write right now.

Carrier Figineering Corporation

750 Frelinghuysen Avenue Newark, N. J.

Boston

Buffalo

Chicago

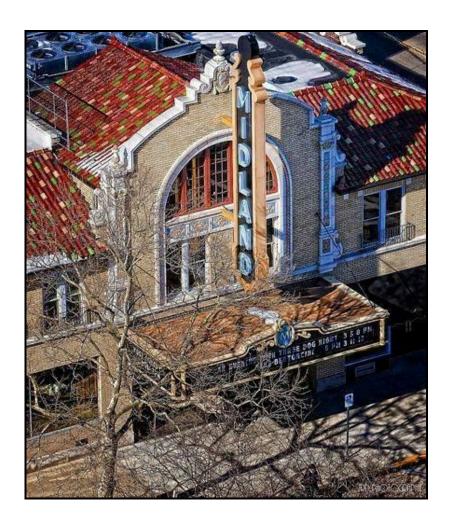
New York

Philadelphia

^{*} Conditioned means uniformly heated, humidified and ventilated without drafts in winter; uniformly cooled, de-humidified and ventilated without drafts in summer;—under automatic control. Conditioning must not be confused with any conception of "ventilation" or "cooling" which you may now have, because Grauman's Metropolitan is the only conditioned theatre in the world today.

Midland Theatre

NEWARK, OHIO



Date Built: Unknown Seating Capacity: 1587

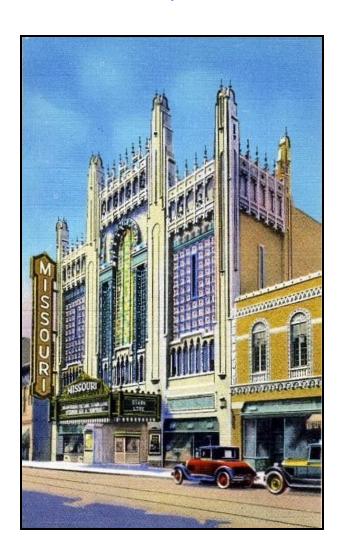
Owner: Unknown Architect: Unknown

Air Conditioning: Carrier Engineering Corporation

Refrigeration: Carrier centrifugal chiller

Missouri Theatre

ST JOSEPH, MISSOURI



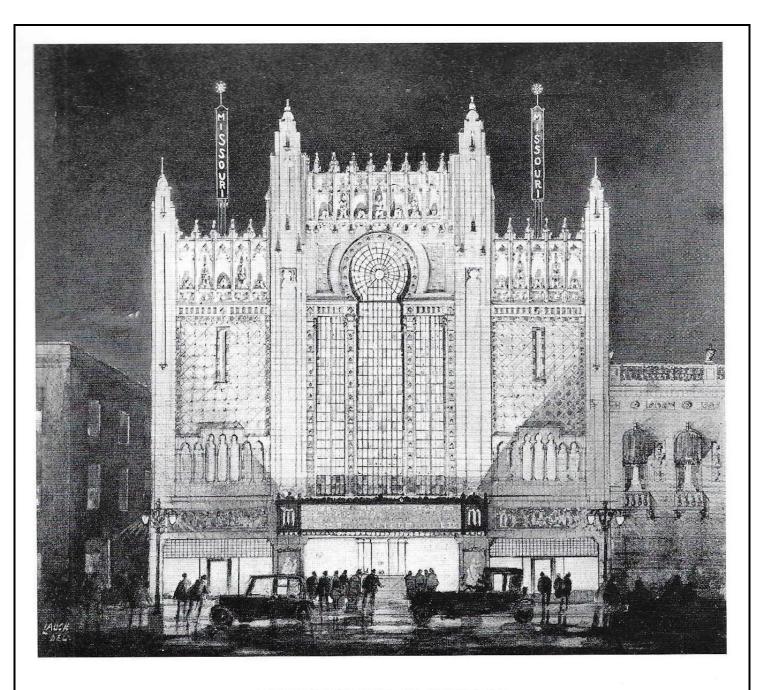
Date Built: 1927

Seating Capacity: 1600

Architect: Boller Brothers

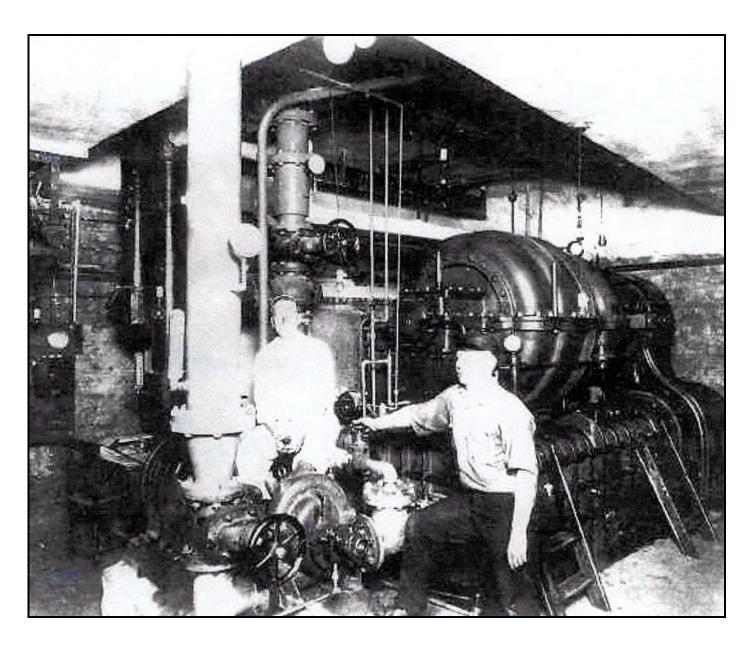
Air Conditioning: Carrier Engineering Corporation

Refrigeration: Carrier centrifugal chiller

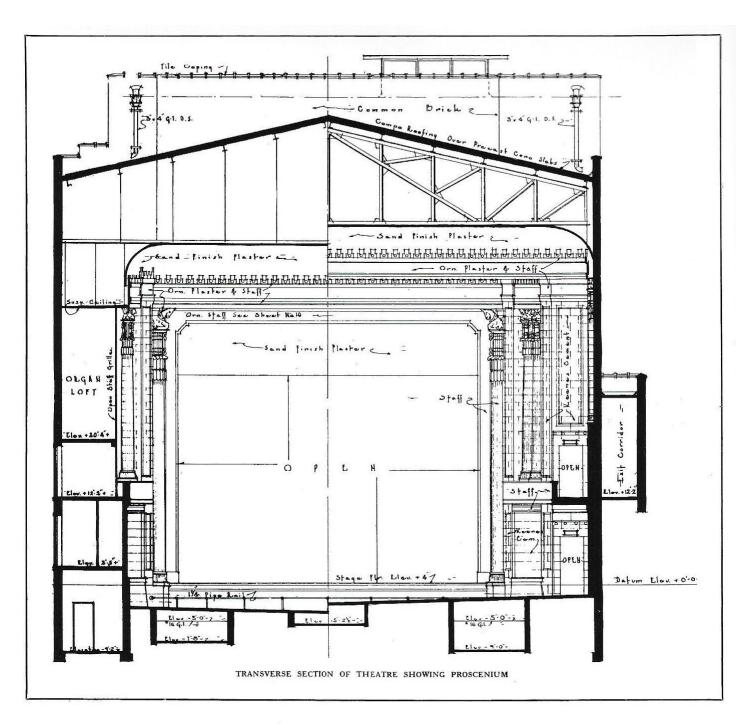


MISSOURI THEATRE, ST. JOSEPH, MO. Boller Brothers, Architects.

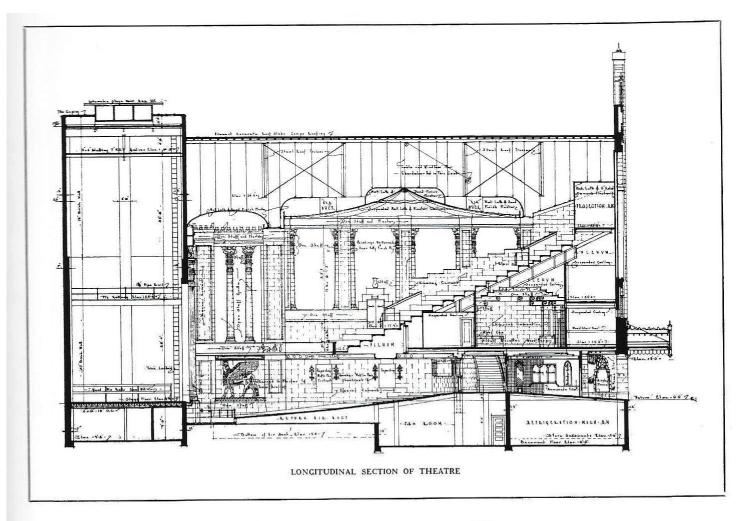
A special effort has been made to create an exterior appropriate to the theatre. The electric sign has been carefully considered as a part of the architecture.



Carrier centrifugal refrigeration in a Missouri Theatre 1920s Possibly the theatre in St Joseph



MISSOURI THEATRE, ST. JOSEPH, MO. Boller Brothers, Architects.

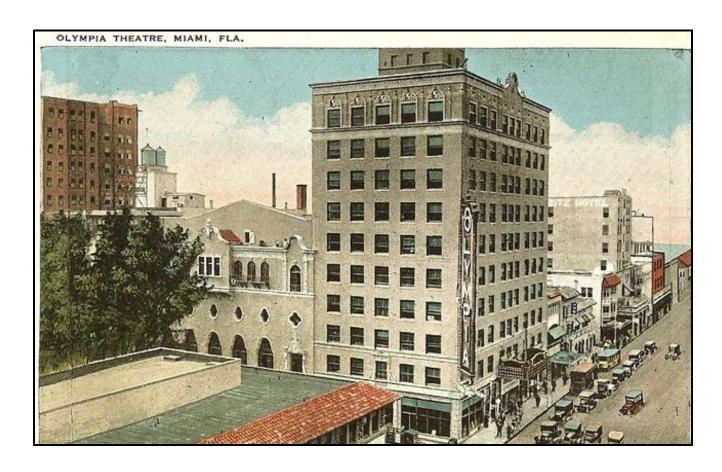


MISSOURI THEATRE, ST. JOSEPH, MO. Boller Brothers, Architects.

Shows Fan Room & Refrigeration Machine Room (Basement lower right on drawing)

Olympia Theatre

MIAMI, FLORIDA

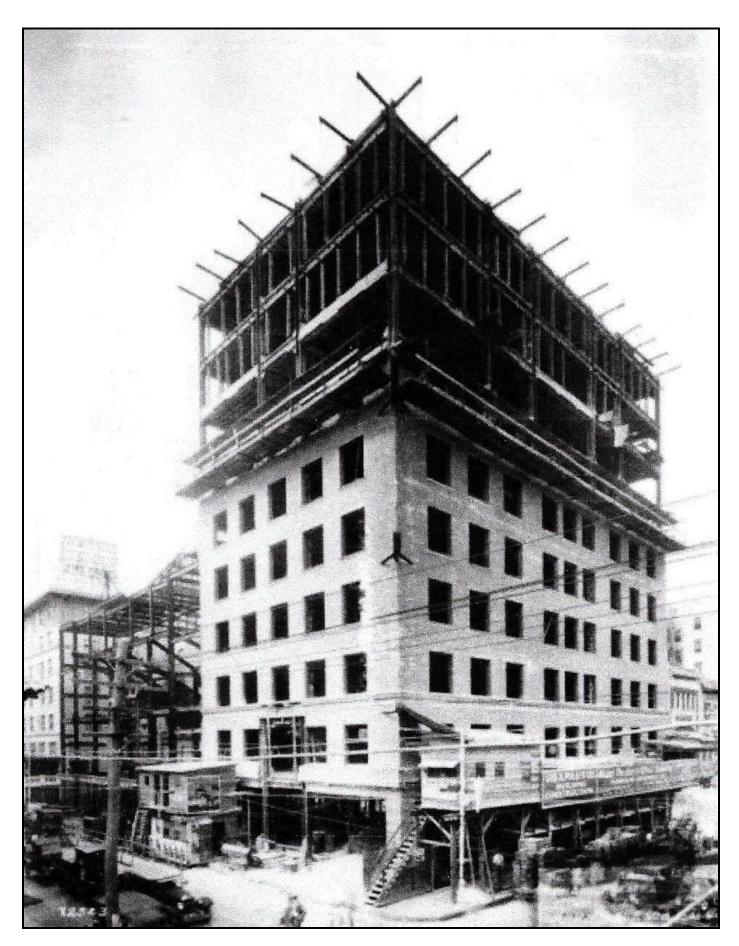


Date Built: 1926

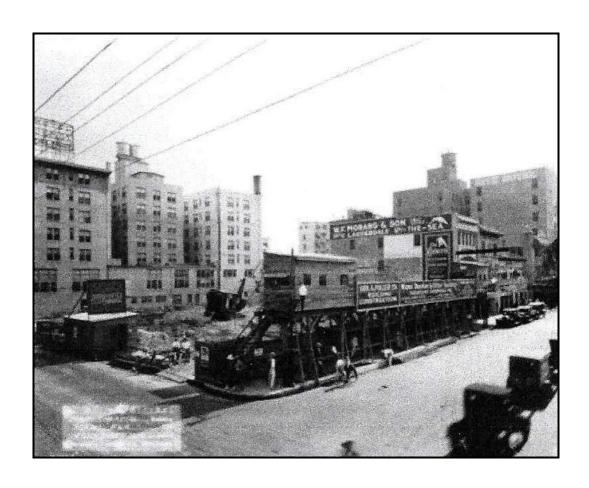
Seating Capacity: 2200

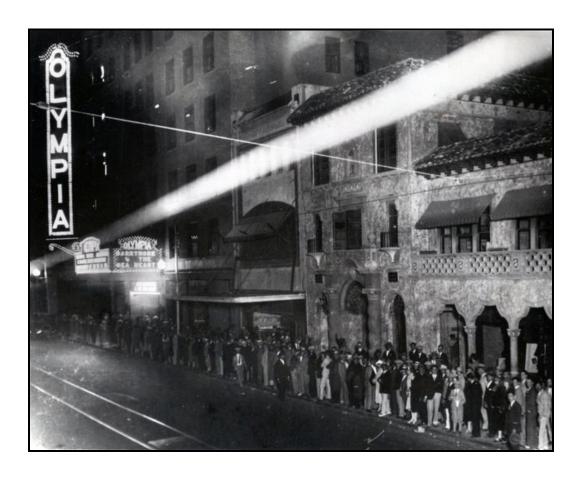
Architect: John Eberson (an Atmospheric Theatre) Air Conditioning: Carrier Engineering Corporation

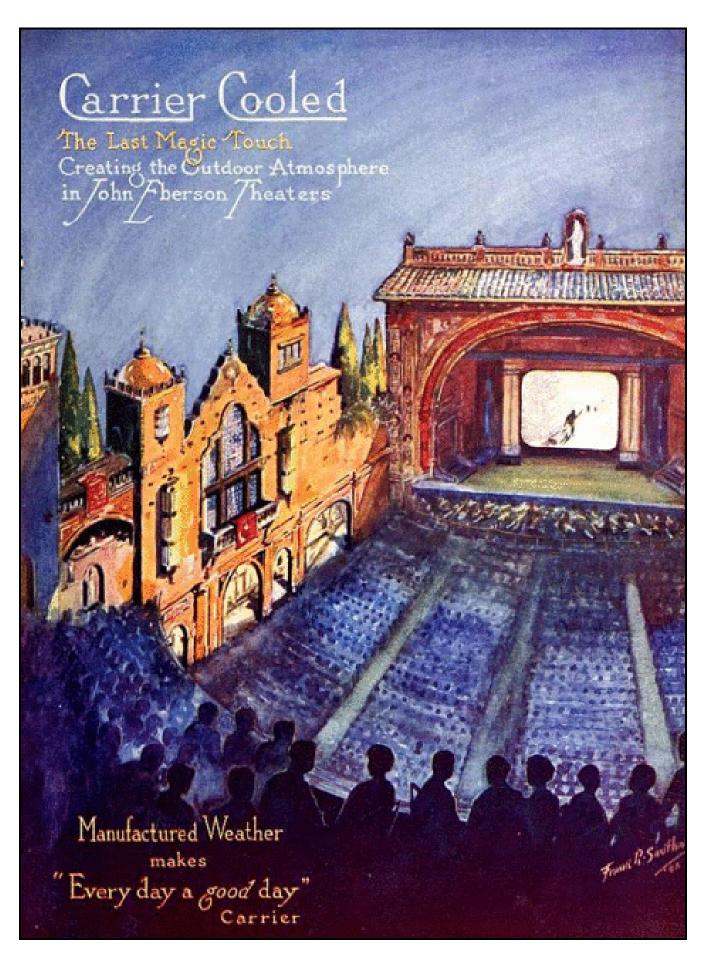
Refrigeration: Carrier centrifugal chiller

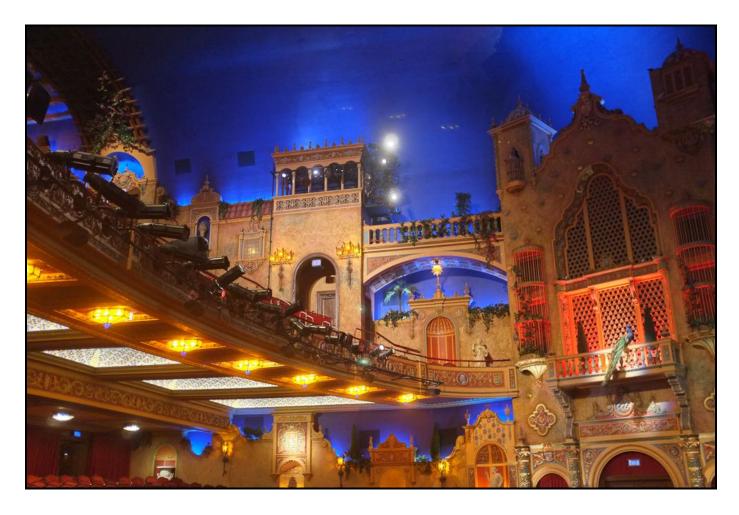


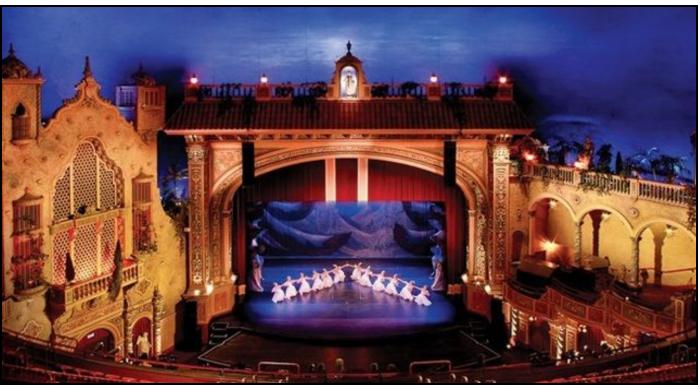
Under construction











The Atmospheric Theatre

A Walk Through The History of the Olympia Theater at Gusman Center for the Performing Arts – Miami, FL

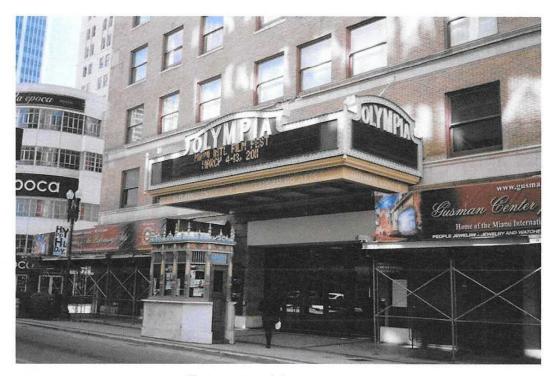


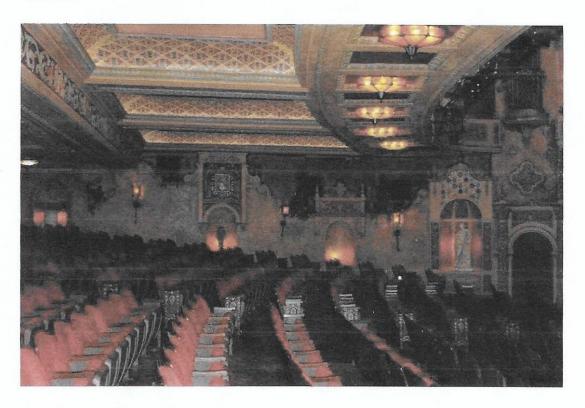
Photo courtesy of cinematreasures.org

Note: We asked our theatre friends to submit their stories for #historictheatres day; the following is shared by Jeannie Piazza-Zuniga, who began as an Intern from Florida International University and retired as Director of Theater Operation of the theatre. She is a long-time member of the Theatre Historical Society of America. If you'd like more information on her upcoming memoir or the Olympia Theater, you may contact her at jeanniepiazza@Yahoo.com or zunipia@bellsouth.net.

The Olympia Theater at Gusman Center for the Performing Arts is located on the southwest corner of Downtown Miami's busiest intersection at Flagler Street and 2nd Avenue— the original site of the "Airdome Theatre." It was built in 1925 by Paramount

Enterprises at a cost of \$1.5 million.

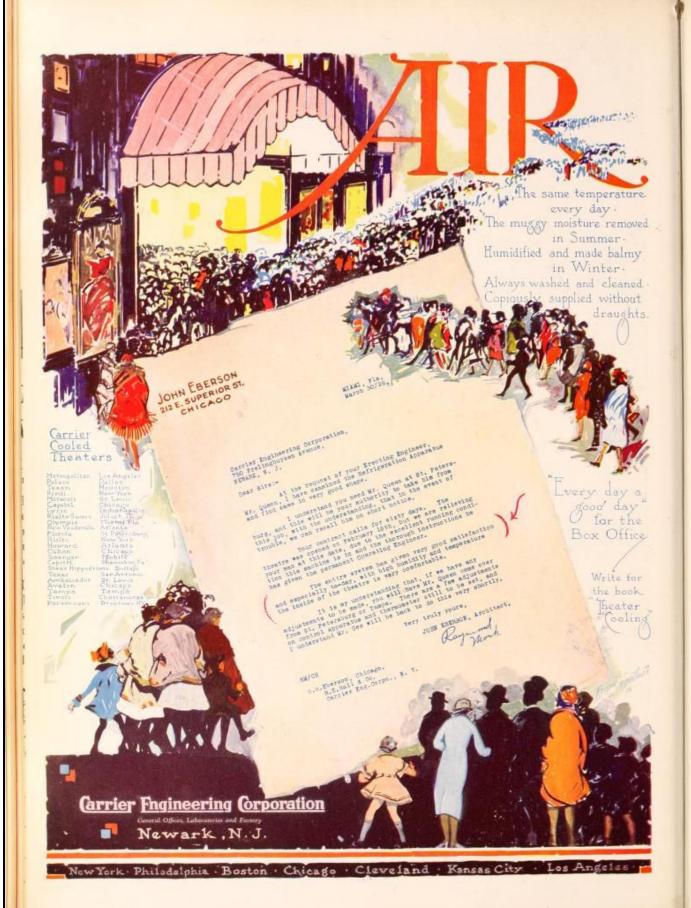
John Eberson, was selected by Paramount as the architect. Eberson departed from the usual theater-style building and created the first of many "atmospheric" theaters with turrets and towers in Spanish style. It was the most beautiful and elaborately equipped theater of its time and believed to be the first air-conditioned theater in the South. It has maintained its reputation as an acoustically perfect theater and remains the love of many Miamians.



In 1929 the excitement of a twenty-five year presentation of stars gracing the stage at the Olympia began: Sophie Tucker, Joe E. Brown, Martha Raye, Rudy Vallee, Burt Wheeler, Jackie Gleason and even Elvis Presley. Motion pictures were introduced in 1954 and were presented until 1971, when the theater's doors closed.

In 1970, the theater was purchased by Miami philanthropist, Maurice Gusman, for housing the Miami Philharmonic Orchestra. Renovations totaling \$5 million were completed under the watchful eye of Miami Beach architect, Morris Lapidus. The Olympia Theater was renamed and reopened October 21, 1972 with a symphonic tribute to Maurice Gusman. Included on the program for that evening was Beethoven's Ninth Symphony to which the audience thrilled in the acoustically perfect theater.

In 1975, Gusman, now in his late 80's, gifted the theater to the City of Miami, with the stipulation that the Center be managed by the Department of Off Street Parking,



Palace Theatre

DALLAS, TEXAS



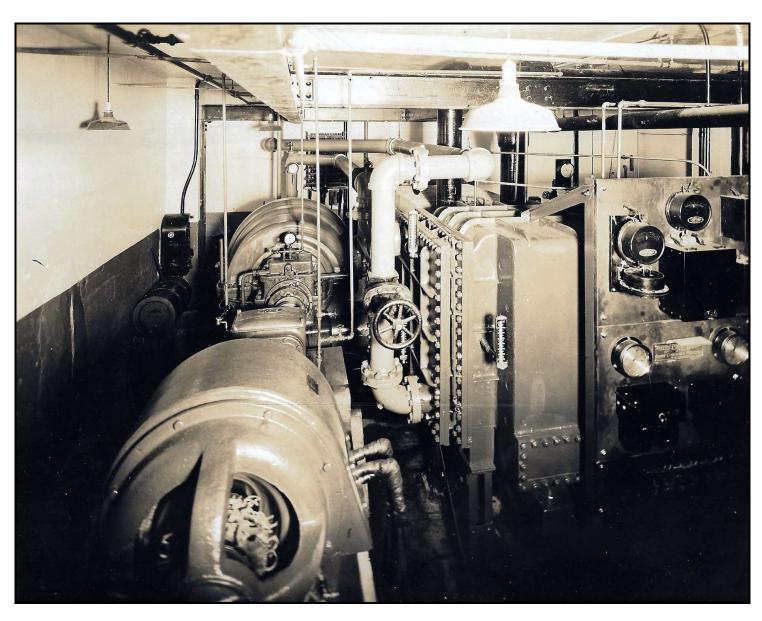
Date Built: 1921

Seating Capacity: 3000 Owner: Independent Architect: Unknown

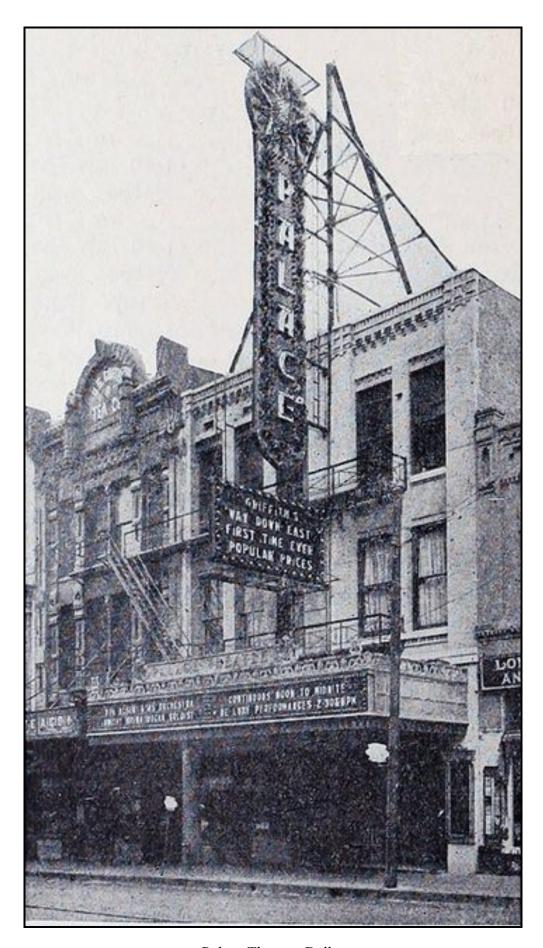
Air Conditioning: Carrier Engineering Corporation

Refrigeration: Carrier centrifugal chiller c.1925

Status: Demolished



Carrier centrifugal installation 1924 Also serving the Iris Theatre across the street



Palace Theatre, Dallas

Paradise Theatre

CHICAGO, ILLINOIS



Date Built: 1928

Seating Capacity: 3885 Owner: Balaban & Katz

Architect: John Eberson (Atmospheric design)

Air Conditioning: Carrier Engineering Corporation

Refrigeration: Carrier centrifugal chiller



Paradise, Chicago

Air Conditioning American Movie Theatres 1917-1932

Paramount Theatre

BROOKLYN, NEW YORK



Sketch design

Date Built: 1928

Seating Capacity: 4201

Owner: Paramount

Architect: C A Bullock of Rapp & Rapp

Air Conditioning: Carrier Engineering Corporation

Refrigeration: Carrier centrifugal chiller



MANUFACTURED WEATHER in the Brooklyn Paramount

Rose & Rose Architect

ANUFACTURED WEATHER, as produced only through the Carrier System for Air Conditioning, will provide patrons of the great new Brooklyn Paramount with an ideally comfortable and a scientifically healthful atmosphere every day in the year, regardless of outdoor weather conditions or the size of the crowd.

This is the same system of air conditioning, including Carrier Centrifugal Refrigeration, which provides ideal comfort in the two other great Paramount Theatres—in New York and Paris—and in an impressive list of progressive theatres in this country and abroad.

The choice of Manufactured Weather for the Brooklyn Paramount is in keeping with the policy of the Publix Theatres Corporation to provide for its patrons the ultimate in theatre comfort, luxury and beauty. It is significant that this is the twenty-fourth of the de luxe theatres of the Publix Group to be Carrier Conditioned.

Theatre Owners, Architects and Engineers are invited to investigate the results necomplished by the Carrier System for Air Conditioning. Write for the book, "Threatre Cooling and Conditioning," and ask for a visit from one of our regimeers.

Carrier Engineering Corporation

Offices and Laboratories

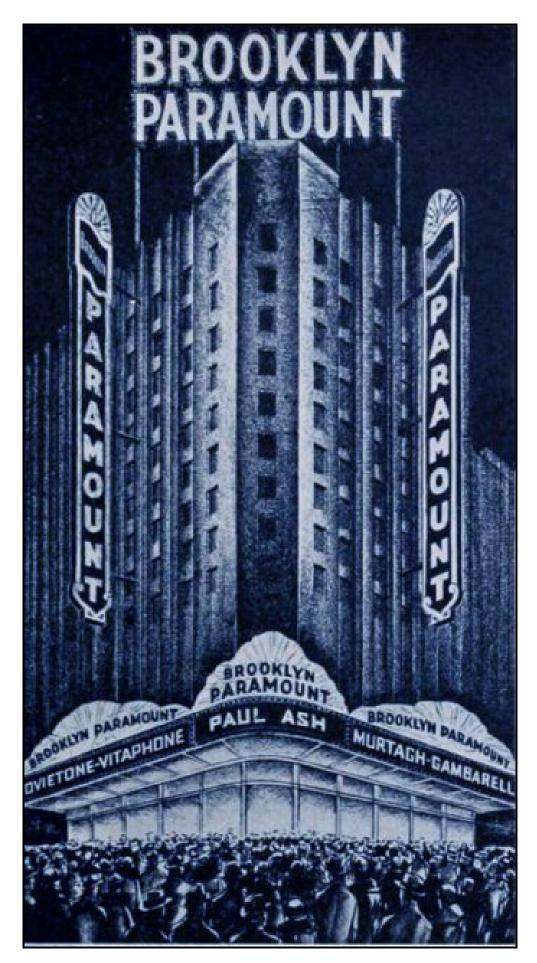
Newark, N. J.

New York Philadelphia Boston Chicago









Rapp & Rapp 1928

Air Conditioning American Movie Theatres 1917-1932

Paramount Theatre

NEW YORK



Date Built: 1926

Seating Capacity: 3664

Owner: Publix Paramount Architect: Rapp & Rapp

Air Conditioning: Carrier Engineering Corporation

Refrigeration: Carrier centrifugals 2 x 160 TR

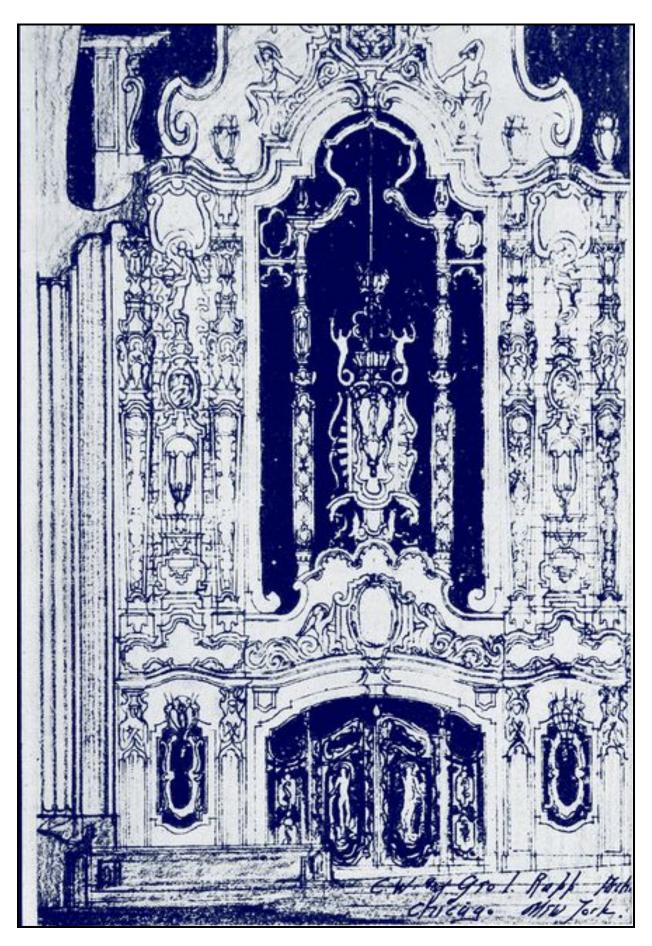


TIMES SQUARE . . . NEW YORK CITY

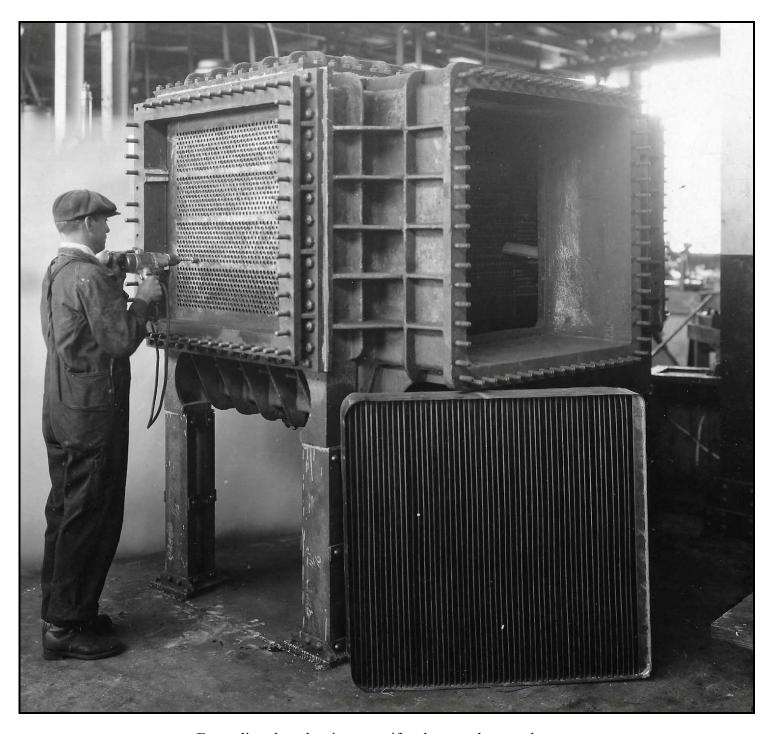


PARAMOUNT

One of the Publix Theatres-Times Square



Architects sketch

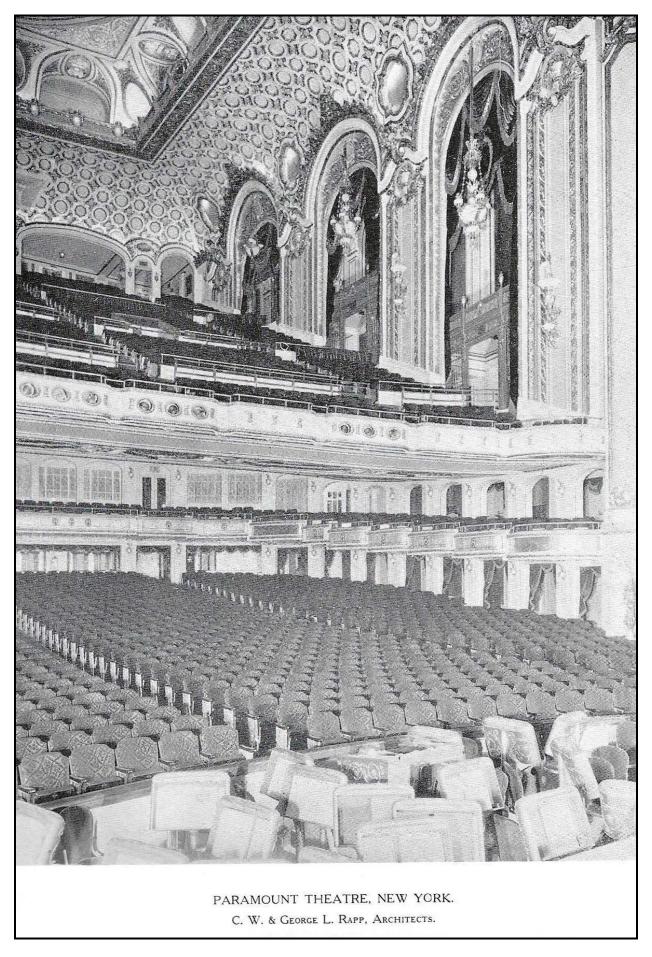


Expanding the tubes in a centrifugal square heat exchanger Carrier Factory 1920s

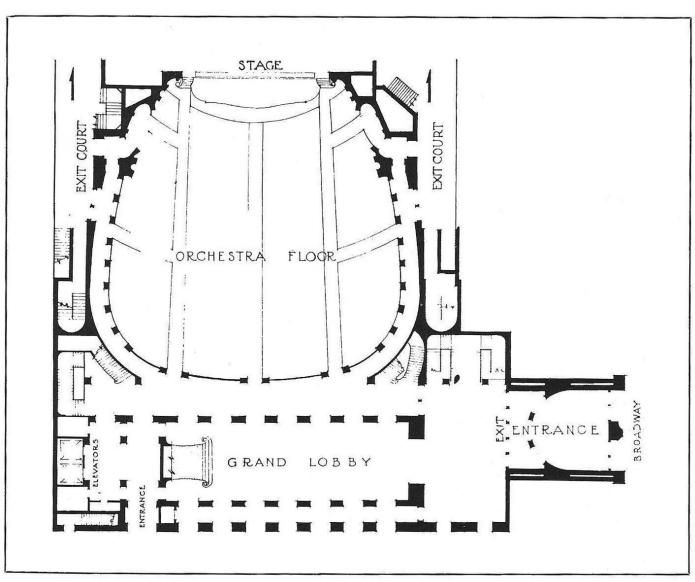


Paramount Building going up in 1926 at Times Square, New York City. To the right is the Astor Hotel where Rapp & Rapp rented rooms for offices during construction. (Rapp Collection)





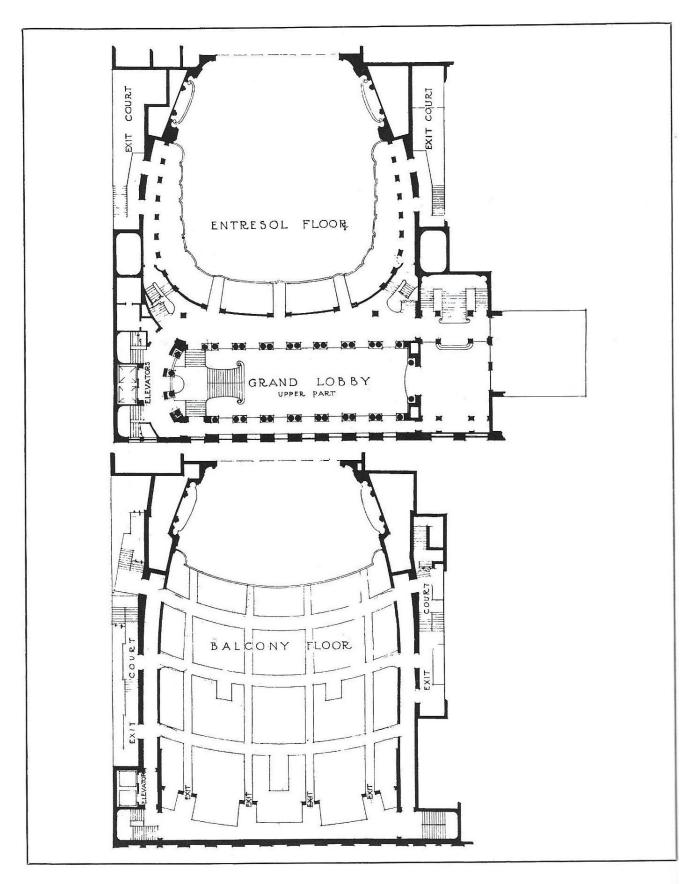
American Theatres of Today (reprint of Volume I, 1927)



PLAN OF FIRST FLOOR

PARAMOUNT THEATRE, NEW YORK, N. Y. C. W. & Geo. L. Rapp, Architects.

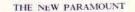
American Theatres of Today (reprint of Volume I, 1927)



PARAMOUNT THEATRE, NEW YORK, N. Y. C. W. & Geo. L. Rapp, Architects.

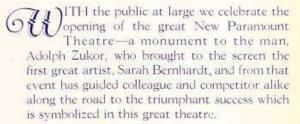


UCCESS



A monument to the Art of the silent drama. A monument to the achievement of Adolph Zukor. A masterpiece by the architects-C. W. and G. L. Rapp and R. E. Hall. A Carrier Conditioned Theatre.

Carrier Conditioned heatres



Hand in hand with the advancement in picture production the motion picture theatre has evolved from the stuffy nickelodeon of yesterday to the airy palace of today. It has been the work of Carrier Engineers, specialists in air conditioning, to contribute to this great development, Manufactured Weather to make "Every day a good day" in the theatre. With just pride we point to the Rivoli and Rialto on Broadway, to a rapidly growing list of theatres throughout the country and finally, to the great Paramount

makes "Every day a good day" in the New Paramount More than 300 tons of perfectly conditioned air each hour are poured into the Theatre and lobbies from three great Carrier systems for Air Conditioning—producing humidified warmth in Winter—cool, invigorating comfort in Summer. Theatre as Carrier Conditioned Theatres.

The same complete system, including Carrier Centrifugal Refrigeration, is now available for the fine "Theatre Cooling and Conditioning. small theatres. Write for the book, Describe your theatres. Ask for a visit from one of our Engineers.

arrier Fngineering

Offices and Laboratories Newark, N. J.

NEW YORK

PHILADELPHIA

BOSTON

Manufactured Weather

CHICAGO

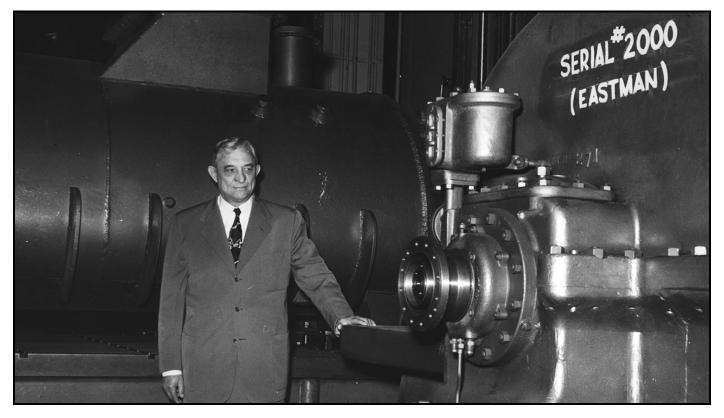
CLEVELAND

KANSAS CITY

LOS ANGELES



Centrifugal refrigeration production line Carrier factory 1920s



Willis Carrier in 1950 with the 2000th centrifugal chiller