

CARRIER ENGINEERING

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FROM 1925 THEATRE COOLING CATALOGUE

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THEATRE COOLING

by



Carrier

Centrifugal Refrigeration
and
Air Distribution



*A Restful Refuge
Summer & Winter*

Every day a good day



TO William A. Johnston, Editor of the Motion Picture News, we are indebted for the splendid editorial, "Cooling the Theatre," with which we introduce this booklet. In a few brief paragraphs, Mr. Johnston has forcefully presented to theatre owners and operators the salient facts and requirements relative to a new and necessary asset in a great industry. It is gratifying to us, as engineers, to have led in the development which has prompted this editorial comment on the part of Mr. Johnston and his paper whose interests are impartially devoted to the betterment of the Motion Picture Theatre.

Carrier Engineering Corporation
NEWARK, N. J.



Carrier Engineering Corporation



Cooling the Theatre

Reprinted from

MOTION PICTURE NEWS

JUNE 20, 1925



Editor of the
MOTION PICTURE
NEWS

W. A. JOHNSTON

A NEW box-office factor has just come to the fore which, it is already clear, is going to rank along with theatre location and the attraction on the screen.

We refer to refrigeration—the installation and operation of a scientific cooling plant.

Summer heat has always been the theatre's chief competitor; but it now appears that a serious liability may not only be wiped out but turned into a solid asset.

The day is here, by all accounts, when to the regular theatre investment of land and building will be added that of a refrigeration plant. It will be a necessity.



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Last week while Broadway sweltered in the terrific heat wave, one theatre, the Rivoli, was well filled day in and day out. The manager informs us that, while ten thousand admissions would be normal for the week's run, the admission actually exceeded twenty-seven thousand.

The report stands out in bold relief against reports this week, of theatres closing here and there and the threatening wholesale closing of most of the theatres in one metropolis.

Evidently the matter is of supreme importance. If people can actually be brought to a theatre to get cool, there is created a brand new enterprise. Again it brings about competition that cannot well be met by any other offering.

We are bringing the matter forcefully to the exhibitor's attention. It ought to be generally and immediately investigated.

The installation cost of the right kind of a plant is considerable. It varies, of course, with the size of a house. The minimum cost today is around thirty-five thousand dollars. A motion picture engineer predicts that this will be lowered. Against this equipment figure, however, is to be placed the opportunity of three months a year paying business against shut down or loss.

The efficiency of the theatre cooling system has just recently been brought about. We are told by one large concern that laboratory experiments have been going on for some time and at very large expense. Today it is claimed that air in a theatre anywhere can be made as healthful and comfortable as the best of country air.

The laboratory experts state that three main factors are involved: air motion, humidity and temperature. These can be brought together at what is called a comfort point. Air can be made cool or warm as the seasons demand. The refrigerating apparatus controls humidity as well as temperature.

The point of the matter is this: The cooling system should be the best procurable. It must be scientifically right. It is a matter of public health and therefore too serious a thing to be bungled. In the entire matter the Technical Department of Motion Picture News is at the service of any exhibitor.

W. A. Johnston



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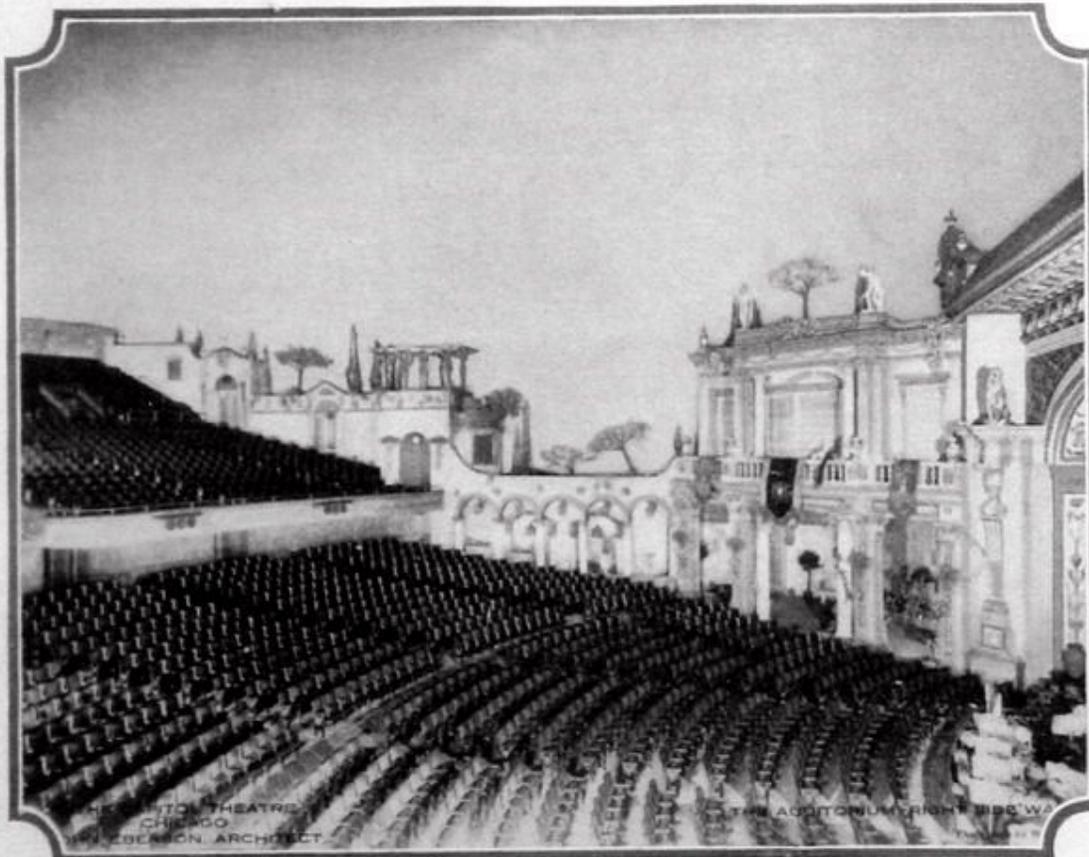


The Missouri, "The Show Place of St. Louis," a Carrier Cooled refuge from the heat.

Installations of The Carrier System are in various stages of completion in the following theatres:

The Missouri, St. Louis; The Capitol, Chicago; The Herald Square, Joliet, Ill.; The Lyric, Indianapolis; The Miami, Miami, Fla., and The Keith Theatre at Atlanta, Ga. Before this book goes to press "Manufactured Weather" will have begun to make "Every day a Good day" at the Missouri in St. Louis and Carrier Refrigeration will be cooling the air for The Capitol in Chicago.

In addition to these theatres, our Engineering Department is laying out plans preparatory for contracts with some twenty theatres throughout the country.



The magic interior in the Capitol Theatre at Chicago, created by Mr. John Eberson, Architect. Here Carrier Centrifugal Refrigeration completes the effect of an ideal open air atmosphere.



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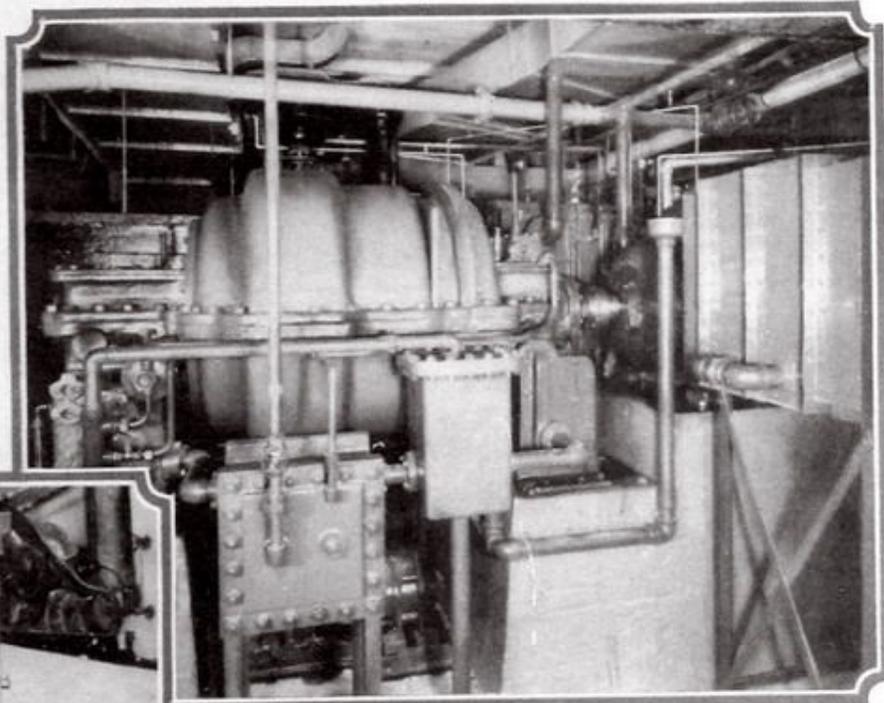
People are willing to stand in line for they know that a refreshing atmosphere awaits them in the Rivoli.

The inside facts of the Rivoli presented to the public by a recording thermometer at the entrance.





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The Carrier Centrifugal Refrigeration System.

*Patrick J. Ryan,
Engineer, of the Rivoli.*



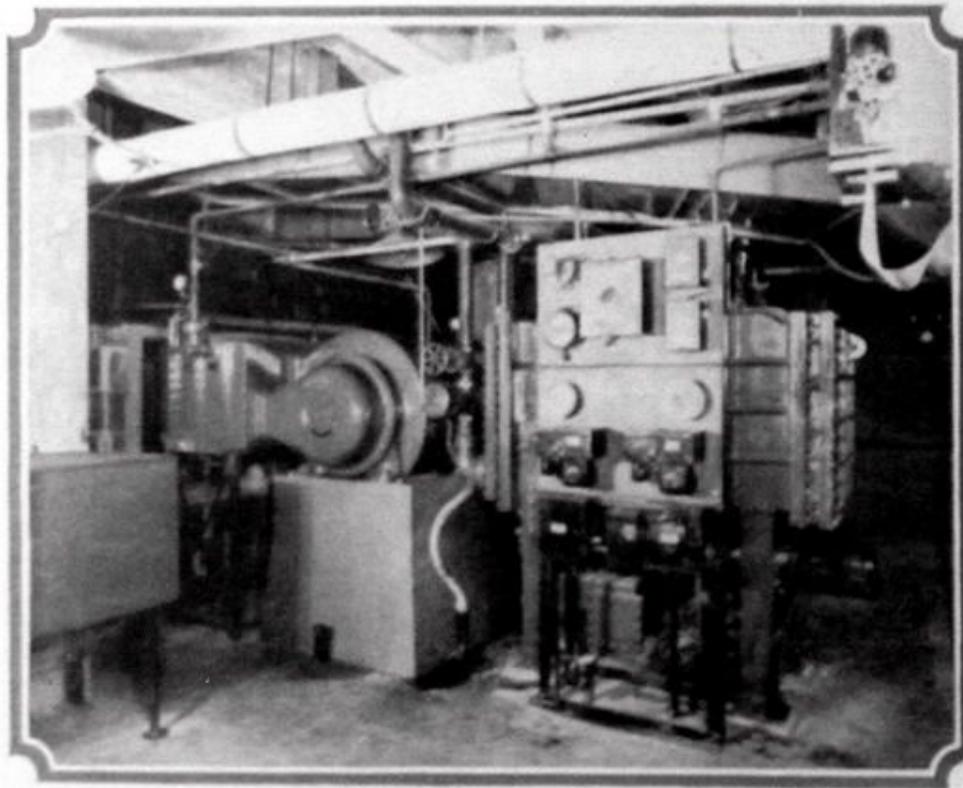
I have operated all of the well-known types of refrigeration systems during my twenty years experience as an operating engineer.

This new Carrier Centrifugal System of Refrigeration is remarkable. It requires practically no attention; its operation is controlled automatically; it occupies a very small space for its capacity, and it is absolutely safe in operation.

Patrick J. Ryan

It seems a paradox, doesn't it, that we should be able to reduce the humidity of the air by blowing it through a cloud of water? It is a fact, however, that the air leaves the chamber with a dew point temperature many degrees lower than when it entered. The dew point of the air, you will understand, is the temperature at which the water vapor in the air begins to form a cloud or condense. The more water vapor the air contains the higher will be its dew point.

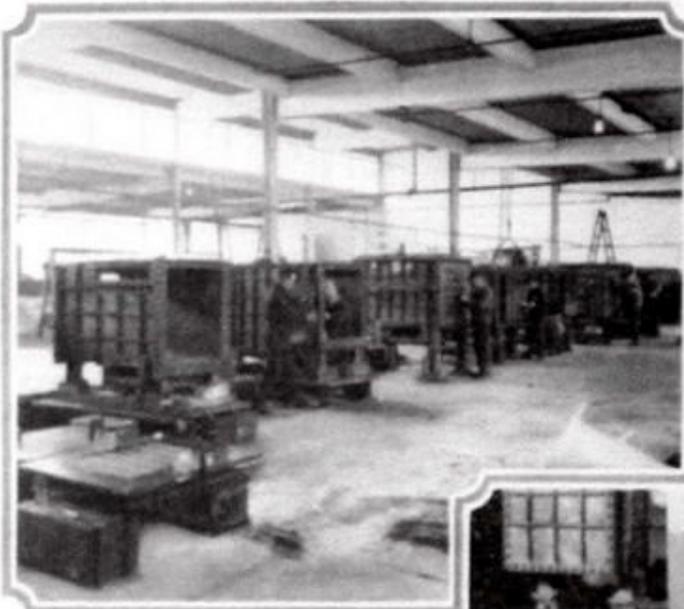
The secret of the dehumidifier, as you will guess, is that the water which issues from the sprays has been artificially cooled to a predetermined temperature under automatic control. No ordinary supply of water is sufficiently cold to cause the necessary condensation.



*The automatic control and instrument panel, Carrier Centrifugal Refrigeration
At the left the high speed self-cooled electric motor which turns the compressor.*

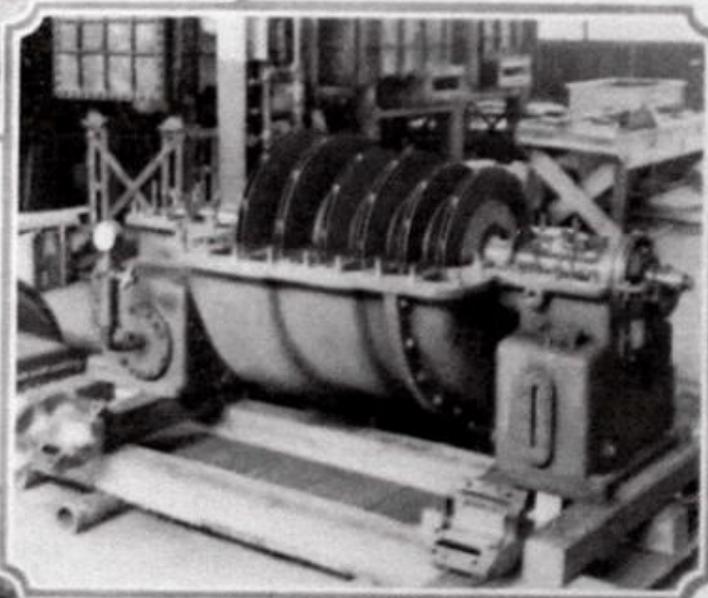
To cool the water which lowers the temperature of the air and reduces its humidity refrigeration is required.

Herein lies the most notable development in equipment for creating proper conditions of the air in theatres and similar public buildings. Dehumidification and the use of refrigeration in this connection is not essentially new for we have long been accomplishing these effects in industrial plants. The familiar forms of refrigeration equipment have, however, in many cases proven most unsatisfactory. The reasons for this are briefly: complicated operation, hazards to the public due either to the nature of the gases used or to the high pressures at which it is necessary to operate and finally the extensive space required.



Assembling Centrifugal Refrigeration units in the Carrier Shops at Newark, New Jersey.

The Carrier Centrifugal Refrigeration compressor with top of casing removed. Note the six centrifugal stages on the shaft. The only contact of moving parts is with the two shaft bearings.



A Carrier Centrifugal Refrigeration Compressor assembled and mounted on the condenser as a base. This particular unit is capable of producing 240 tons of refrigeration each 24 hours.

