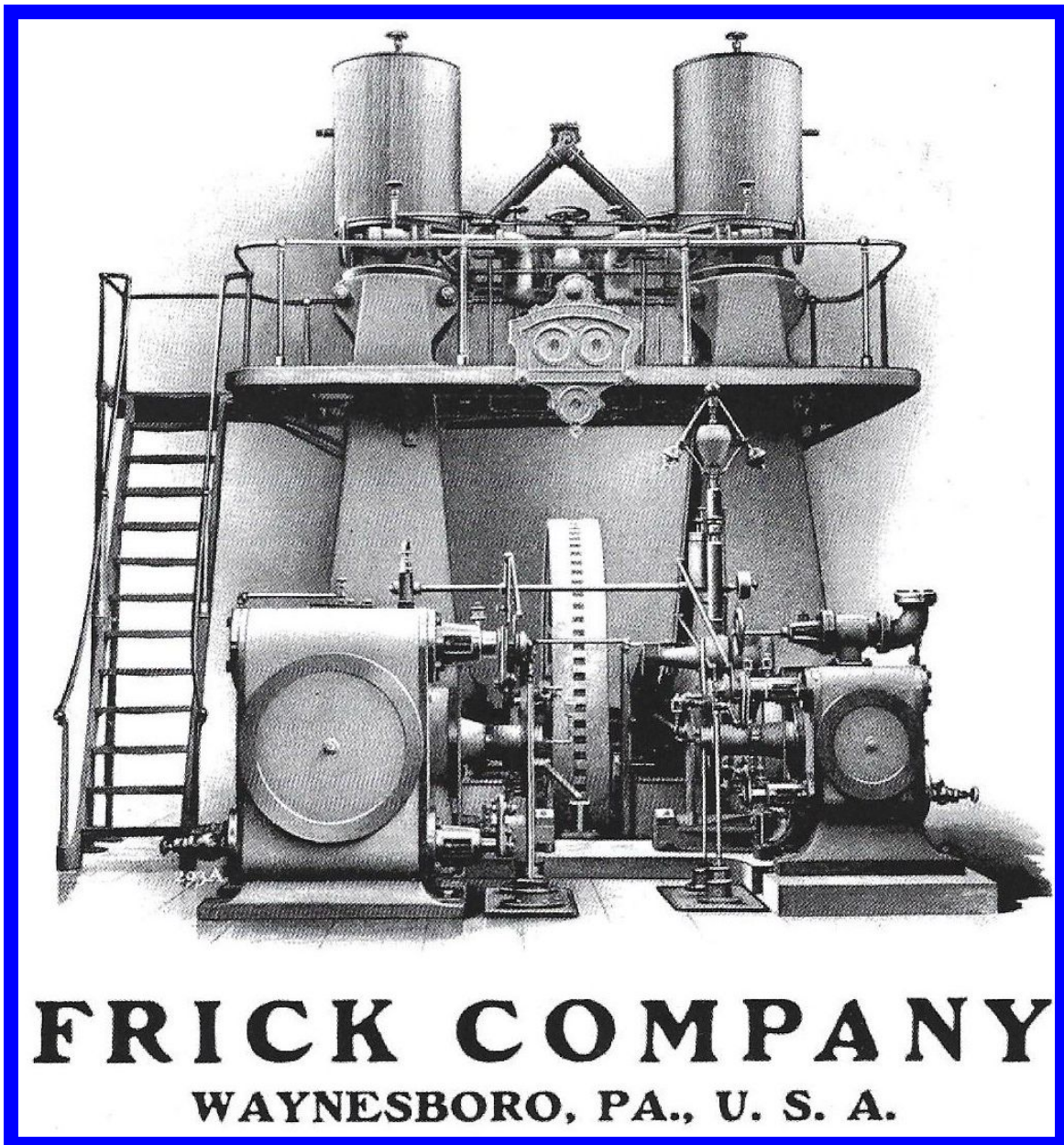


Refrigeration in American Breweries 1860-1920

Frick Refrigeration



FRICK COMPANY

WAYNESBORO, PA., U. S. A.

FRICK COMPANY, ENGINEERS
Waynesboro, PA, 1890 Catalogue

1890

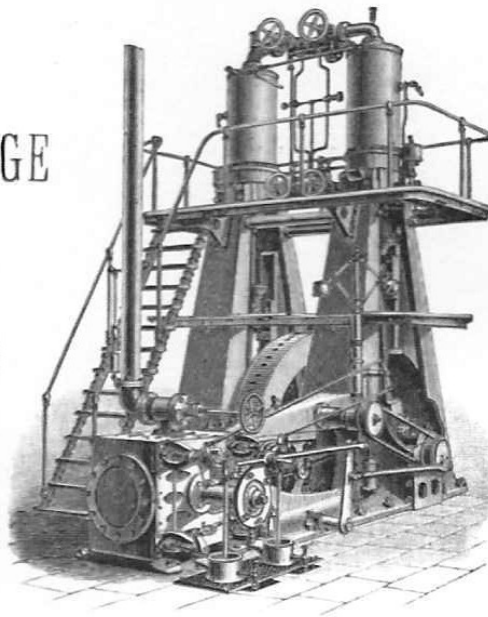


FRICK COMPANY, ENGINEERS.

“ECLIPSE”
REFRIGERATING MACHINES

FOR USE IN

COLD STORAGE
DEPOTS,
PACKING
HOUSES,



BREWERIES,
ICE
FACTORIES,
ETC.

RANGING FROM 1 TO 300 TONS CAPACITY.

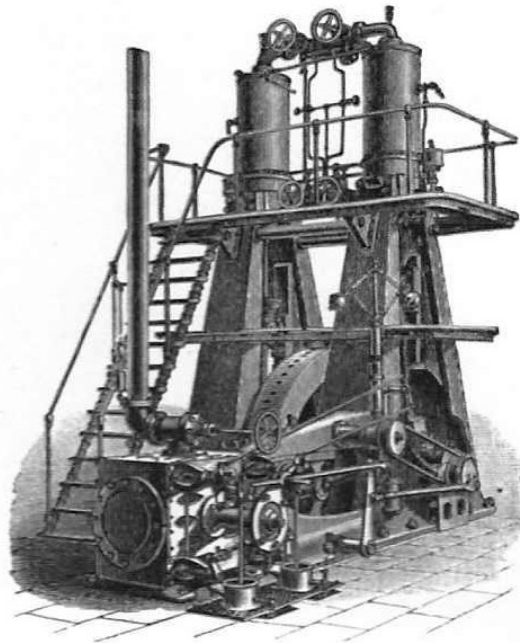
FULLY WARRANTED.

*WE FURNISH PURE ANHYDROUS AMMONIA FOR USE IN
OUR MACHINES.*

ADDRESS ALL COMMUNICATIONS TO

FRICK COMPANY, ENGINEERS,
WAYNESBORO, FRANKLIN COUNTY, PENNA., U. S. A.

[COPYRIGHTED]



REFERENCES FOR OUR ECLIPSE REFRIGERATING MACHINERY.

Below we publish a partial list of parties who have our improved Refrigerating and Ice-making Machinery in use. Please to ask them what they think of it, and learn for yourself if they support our claim that we build the best.

BREWERIES.

Parkersburg Brewing Co., Parkersburg, W. Va.,	27 ton Refrigerating capacity.			
Bellevue Brewing Co., Cincinnati, Ohio,	50	“	“	“
Cumberland Brewing Co., Cumberland, Md.,	27	“	“	“
Phoenix Brewing Co., Baltimore, Md.,	27	“	“	“
Gipps Brewing Co., Peoria, Ill.,	50	“	“	“
Sprattler & Mennell, Paterson, N. J.,	32	“	“	“
Herman Lackman, Cincinnati, O.,	65	“	“	“
Henry Fink, Harrisburg, Pa.,	32	“	“	“
Sebastian Helldorfer, Baltimore, Md.,	32	“	“	“
Frank Reisch & Bro., Springfield, Ill.,	50	“	“	“
Jos. Stein & Co., Louisville, Ky.,	23	“	“	“
Meyer & Reidlin, Covington, Ky.,	32	“	“	“

THEORY AND PRACTICE OF MECHANICAL PRODUCTION OF COLD,

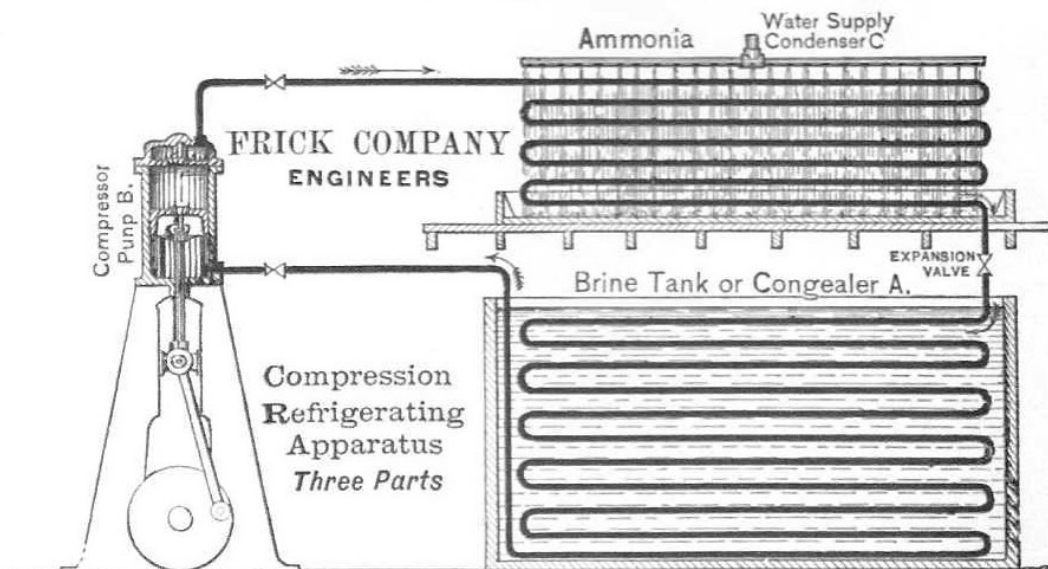
OR, WHY A REFRIGERATING MACHINE DOES ITS WORK.

About the first thing asked by persons who are becoming interested in the subject of Refrigerating or Ice-making, who are anxious to know how the thing is done, is, Will you tell me how you produce such an intense degree of cold by machinery?

As this has been asked time and again, we will here beg to save time by briefly reviewing the principal features, and essay to do so in such a way that those who claim no particular knowledge of physics and thermodynamics may follow the text and become somewhat conversant with the subject.

MECHANICAL REFRIGERATION,

primarily, is produced by the evaporation of a volatile liquid which will vaporize at low temperatures, and by means of our special apparatus the intensity and desired amount of refrigeration is under control of the operator.



OUTLINE DRAWING OF MECHANICAL COMPRESSION SYSTEM.

APPARATUS.

The simplest form of apparatus employed consists of three principal parts: A. An "evaporator," or, as some-

chilled brine or non-freezing liquid is circulated by means of a pump through coils of pipe, which are placed on the ceiling or sides of the apartments to be refrigerated, the process being analogous to heating rooms by steam.

THE BRINE COOLS THE ROOMS.

The cold brine in its circuit along the pipes becomes warmer by reason of taking up the heat of the rooms, and is finally returned to the brine tank, where it is again cooled by the ammonia coils, the operation, of course, being a continuous one.

DIRECT EXPANSION SYSTEM.

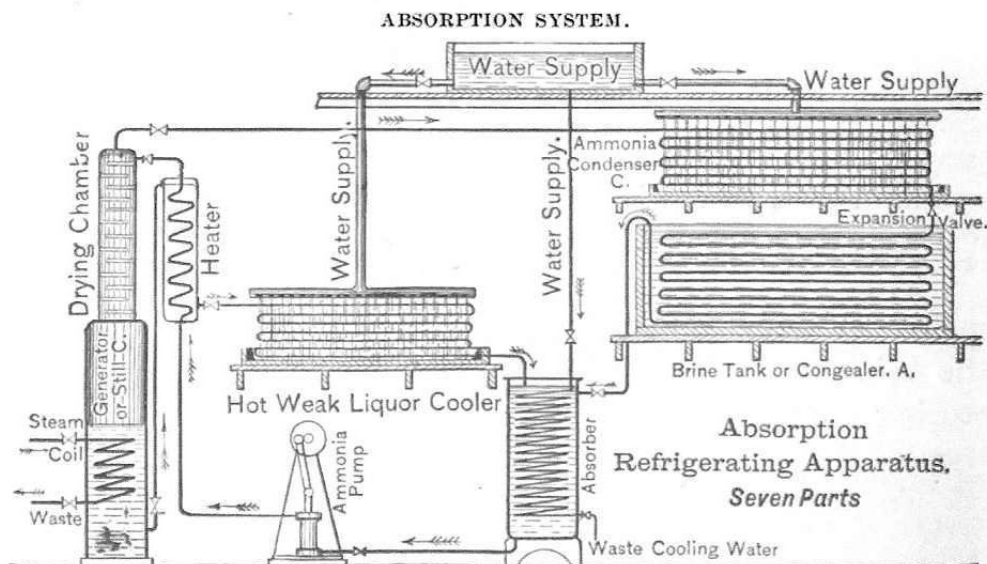
In this scheme the expansion or evaporating coils are not put in brine tanks, but are placed directly in the rooms to be refrigerated, and the ammonia is evaporated in the coils by coming in direct contact with the air in the room to be refrigerated, no evaporating tank being used.

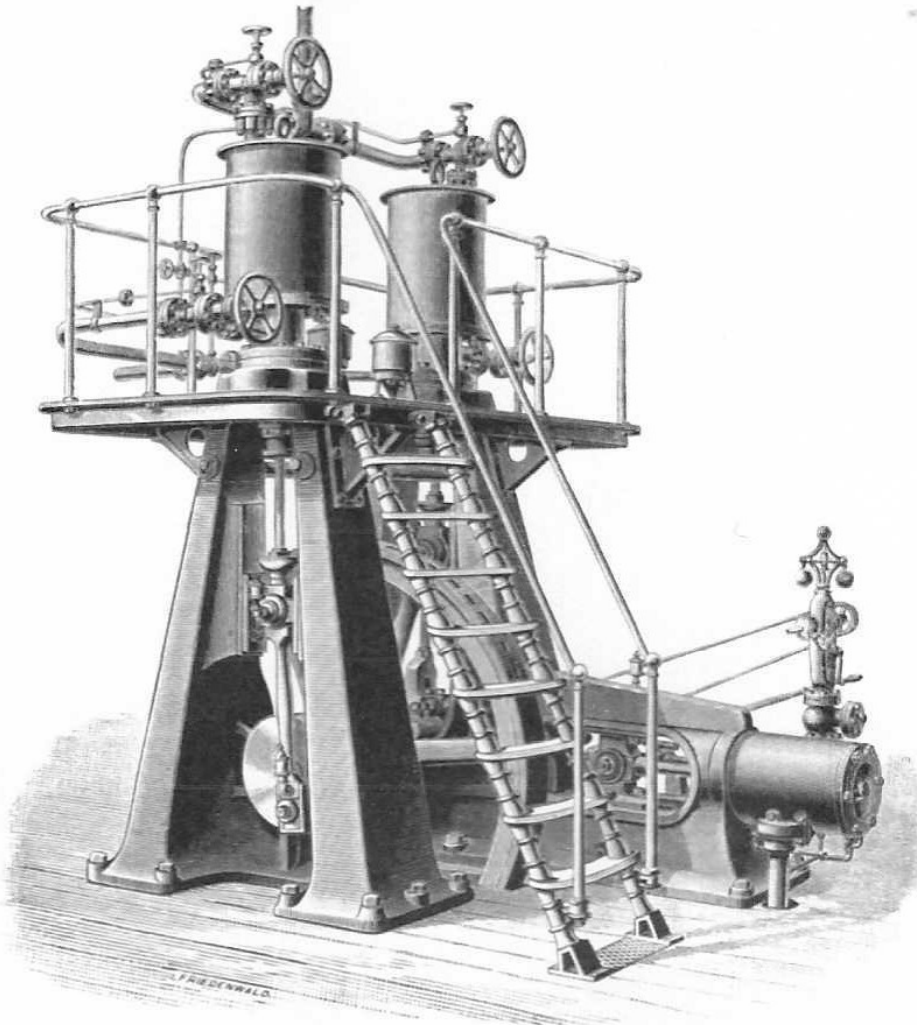
A BRINE PLANT CONSISTS OF

1. Compressor Pump; 2. Condenser; 3. Brine Tank;
4. Pump and Circulating Piping in the rooms.

A DIRECT EXPANSION PLANT CONSISTS OF

1. Compressor Pump; 2. Condenser; 3. Pipes for expansion of ammonia in the rooms;
4. A complicated system for distributing and regulating evaporation in the various rooms.



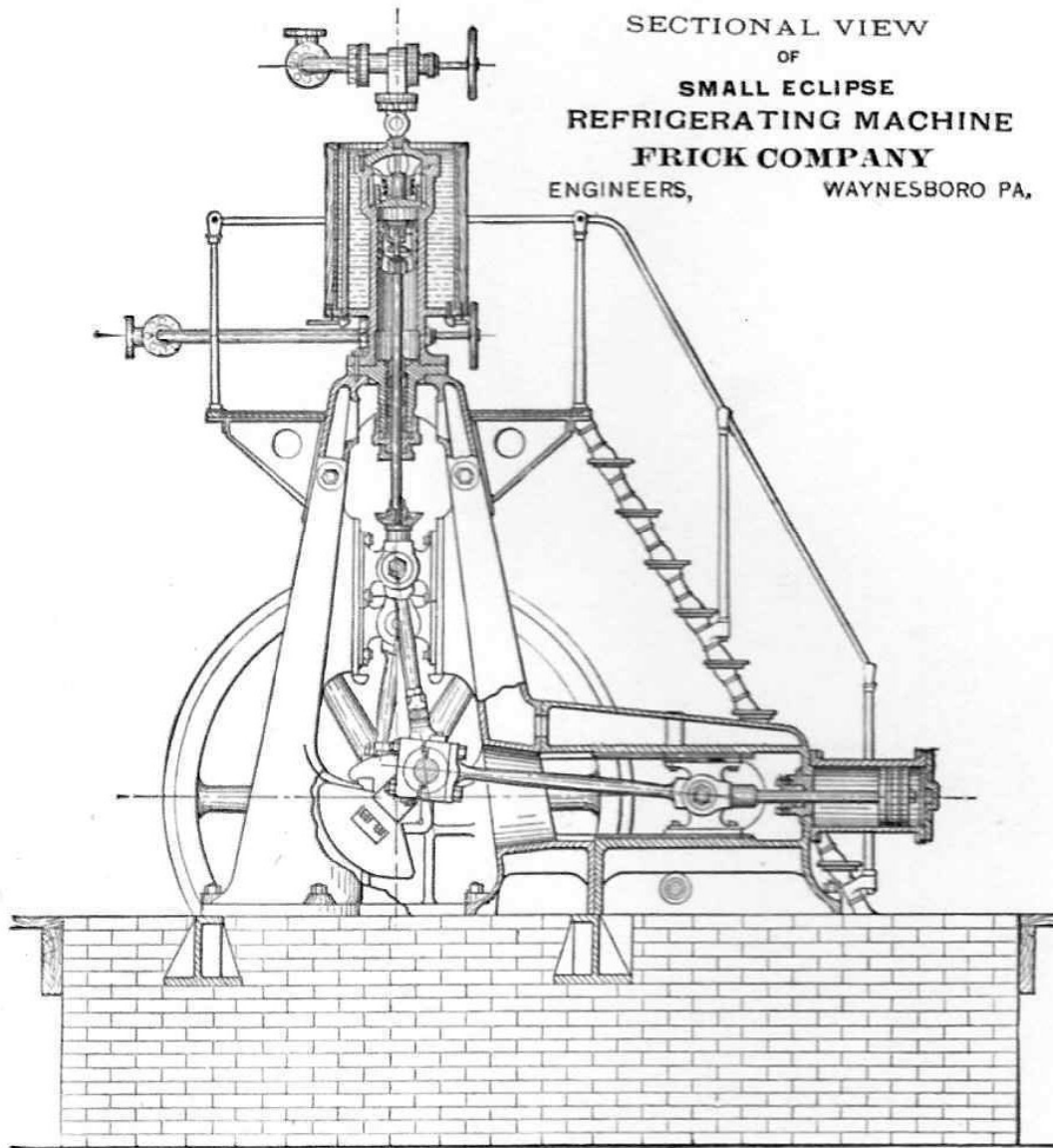


(PATENTED.)

SMALLEST SIZE ECLIPSE REFRIGERATING MACHINE.

The above engraving is from a photograph of our smallest patterns, with Tremper cut-off governor. It will be seen that the same general design has been adopted in this size as in the larger machines, making it one of the most compact, substantial, economical and easily managed ever introduced.

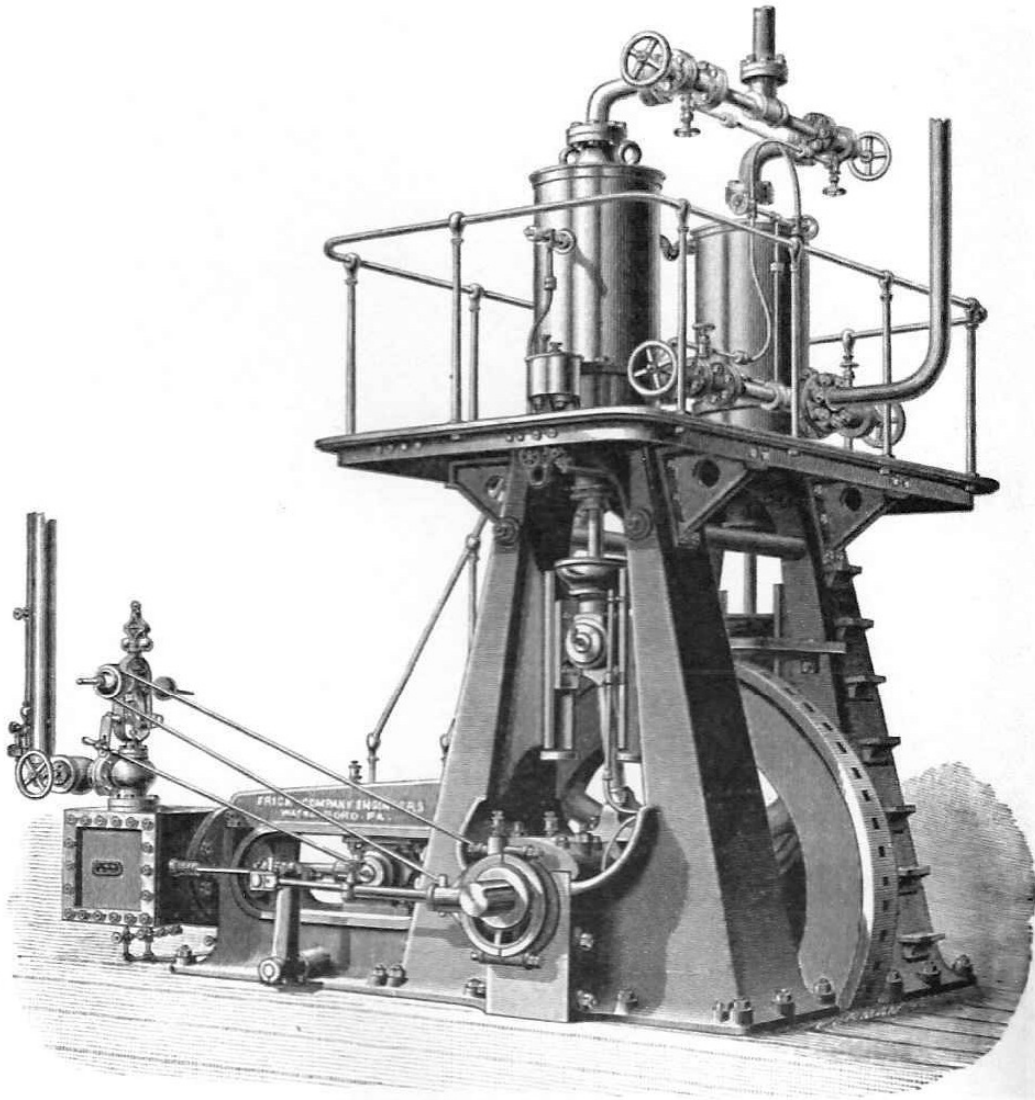
Larger machines shown on pages following.



**SECTIONAL VIEW OF OUR SMALLEST ICE-MAKING
MACHINE.**

See engraving on page 38.

FROM A PHOTOGRAPH OF OUR 25 TON MACHINE.



(PATENTED.)

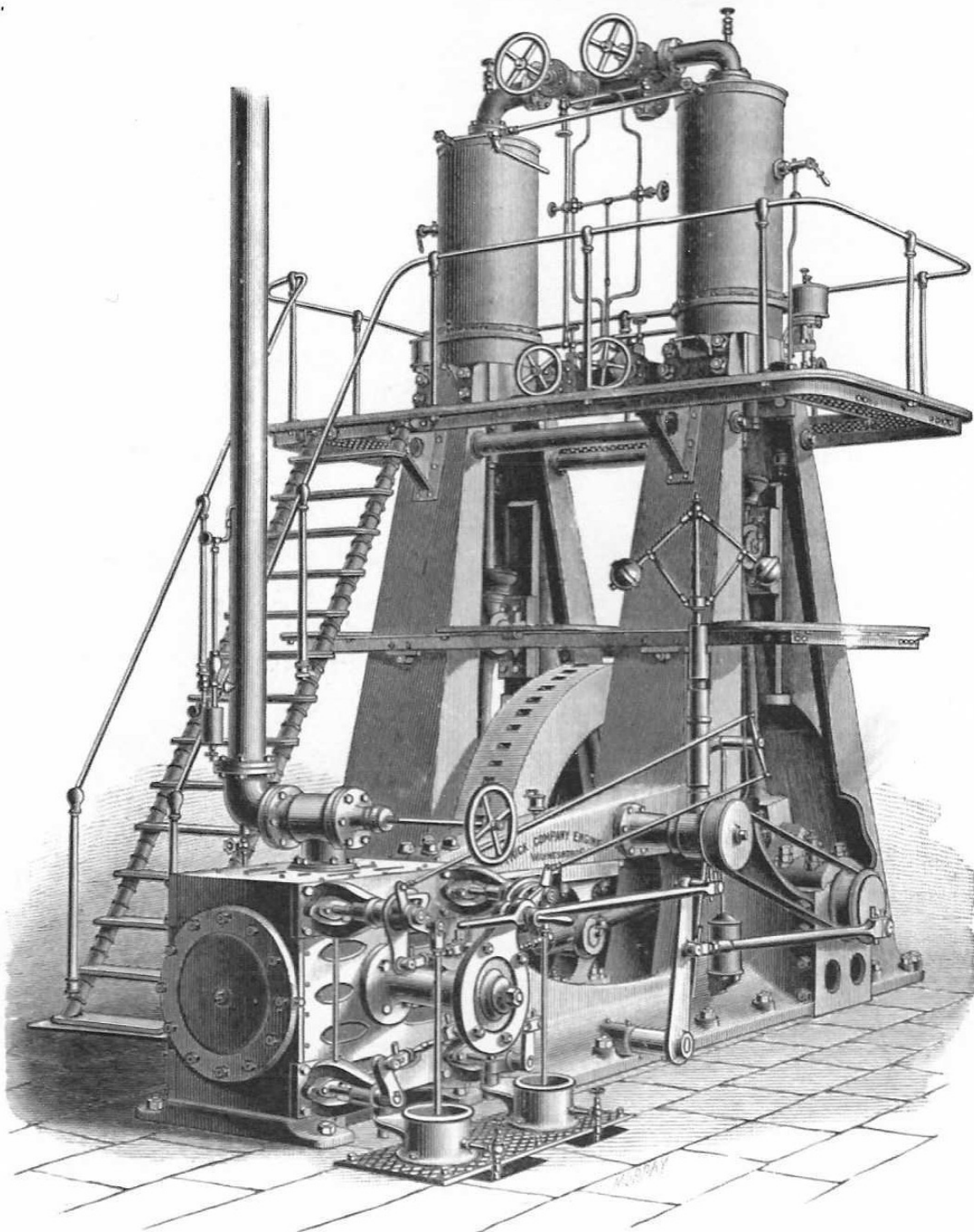
**REGULAR PATTERN "ECLIPSE" REFRIGERATING MACHINE,
PLAIN SLIDE VALVE AND TREMPER CUT-OFF
GOVERNOR.**

THE ABOVE CUT SHOWS OUR MACHINES FROM 25 TON DOWNWARD.

The cuts on other pages represent Machines from 2 up to 150 Tons. On the larger sizes we provide a triple gallery, which makes it convenient to get at all parts of the machine while in operation.

In all sizes above and including 25 Ton, we recommend our Corliss Engine exclusively.

FROM A PHOTOGRAPH OF OUR 50 TON MACHINE.

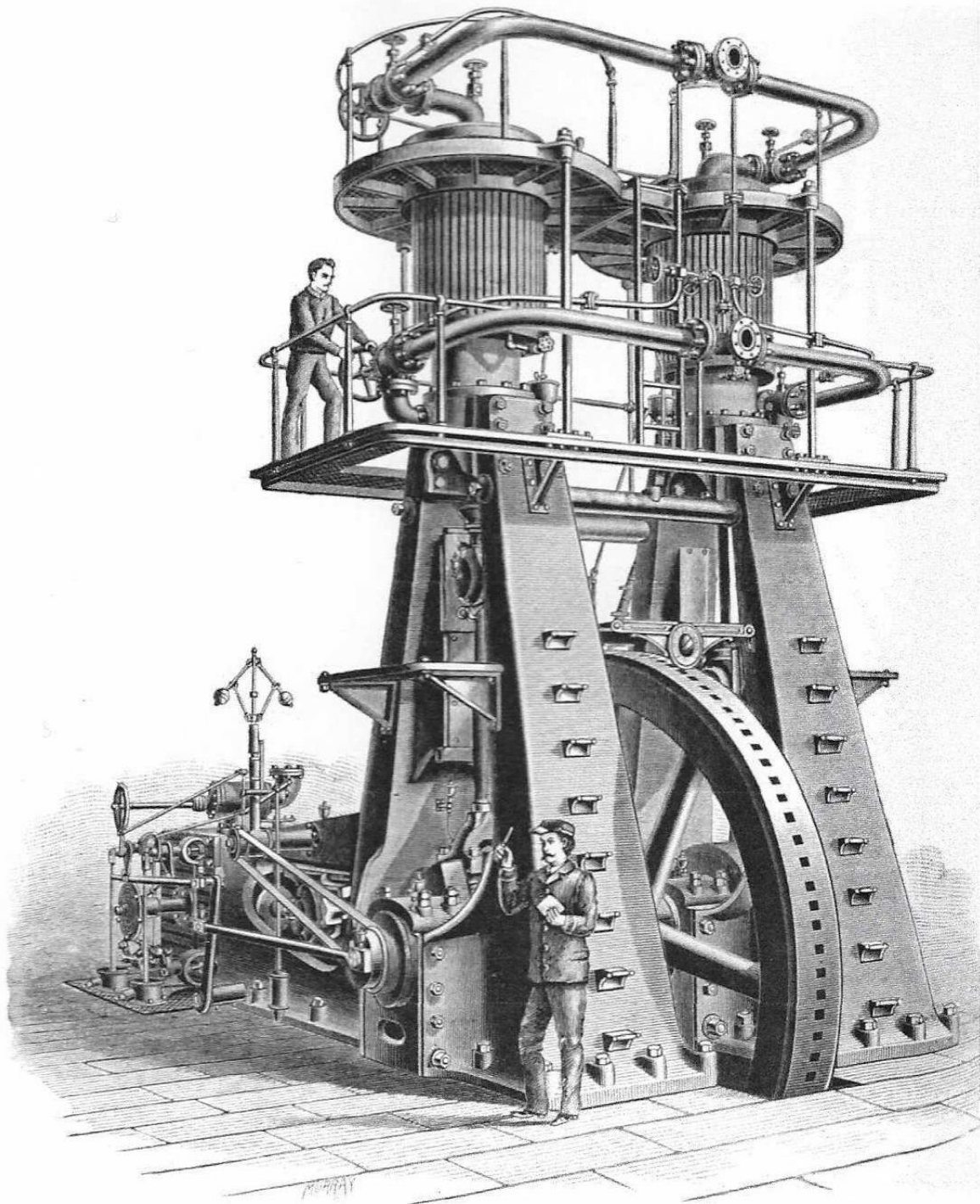


(PATENTED.)

**REGULAR PATTERN "ECLIPSE" REFRIGERATING MACHINE,
WITH CORLISS ENGINE.**

SHOWING MEDIUM SIZES FROM 35 TO 75 TONS.

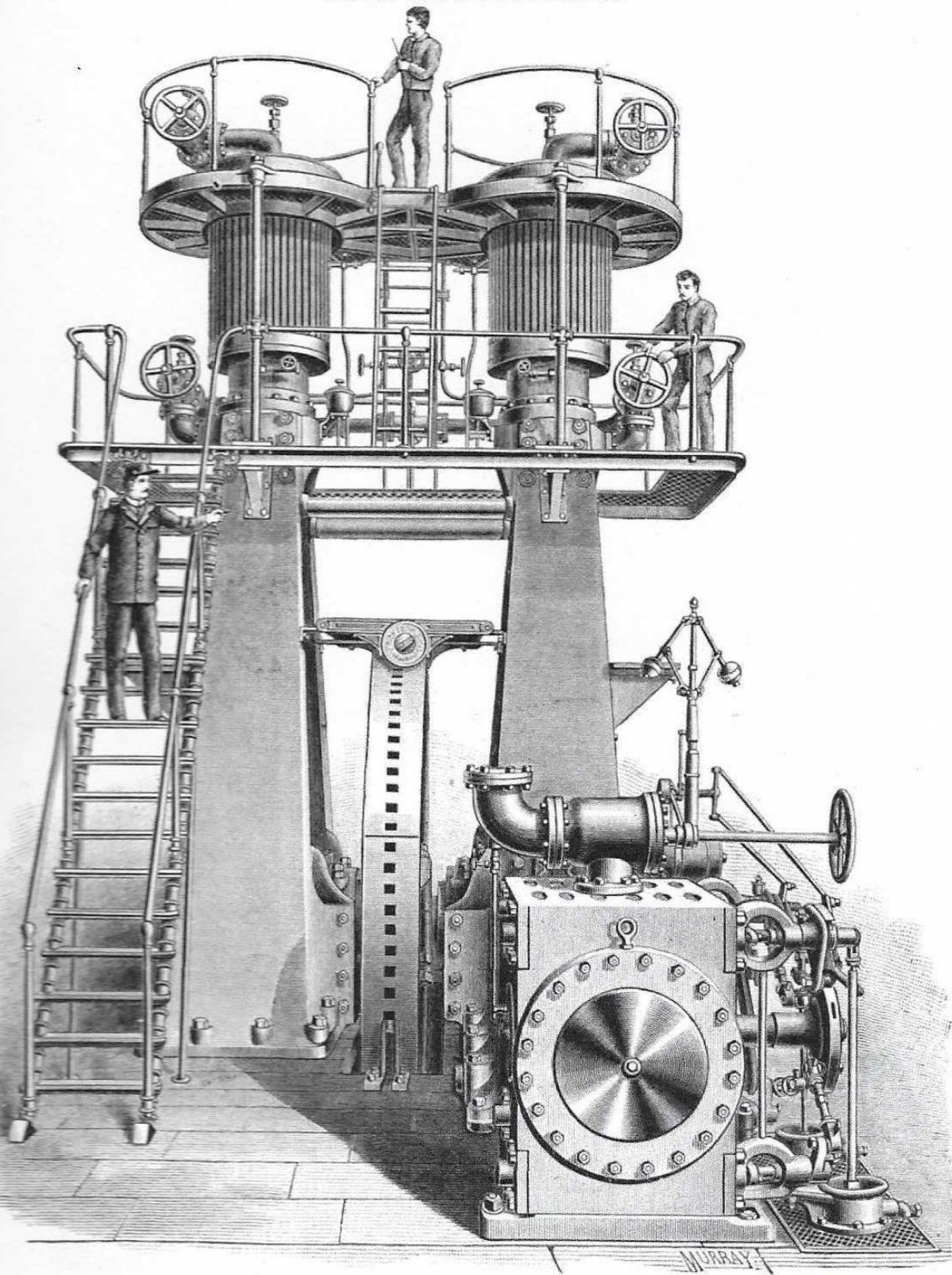
FROM A PHOTOGRAPH.



(PATENTED.)

**150-TON ECLIPSE REFRIGERATING MACHINE, ENGINE SIDE,
REGULAR PATTERN.**

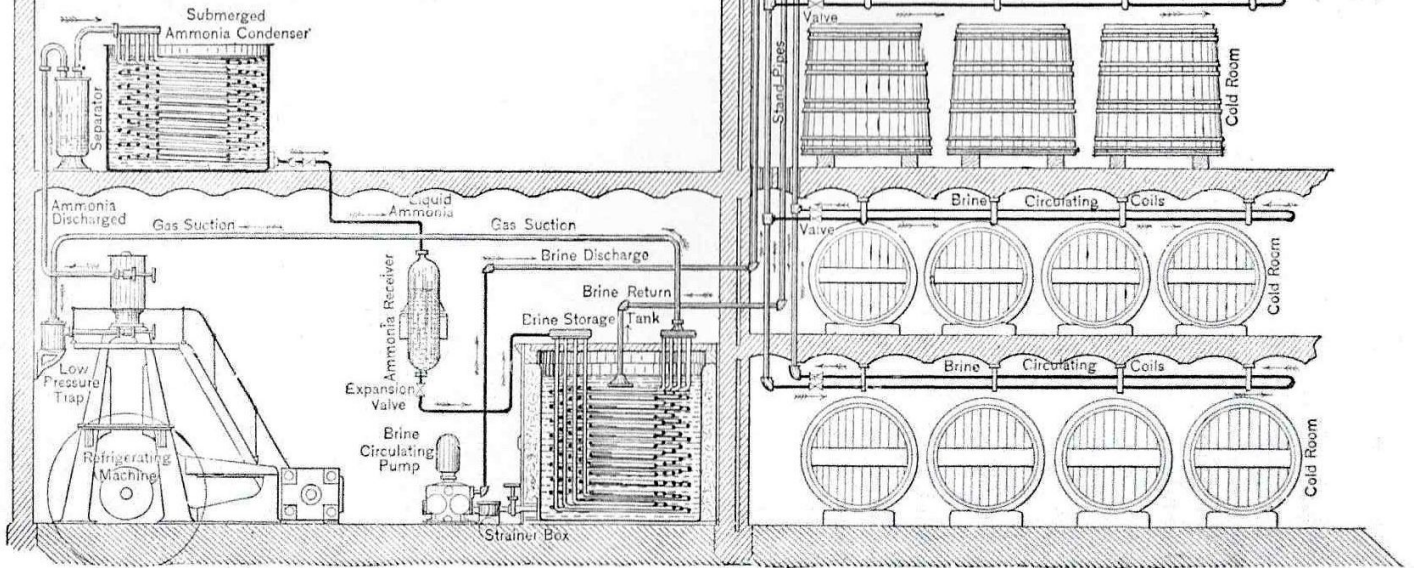
FROM A PHOTOGRAPH.



(PATENTED.)

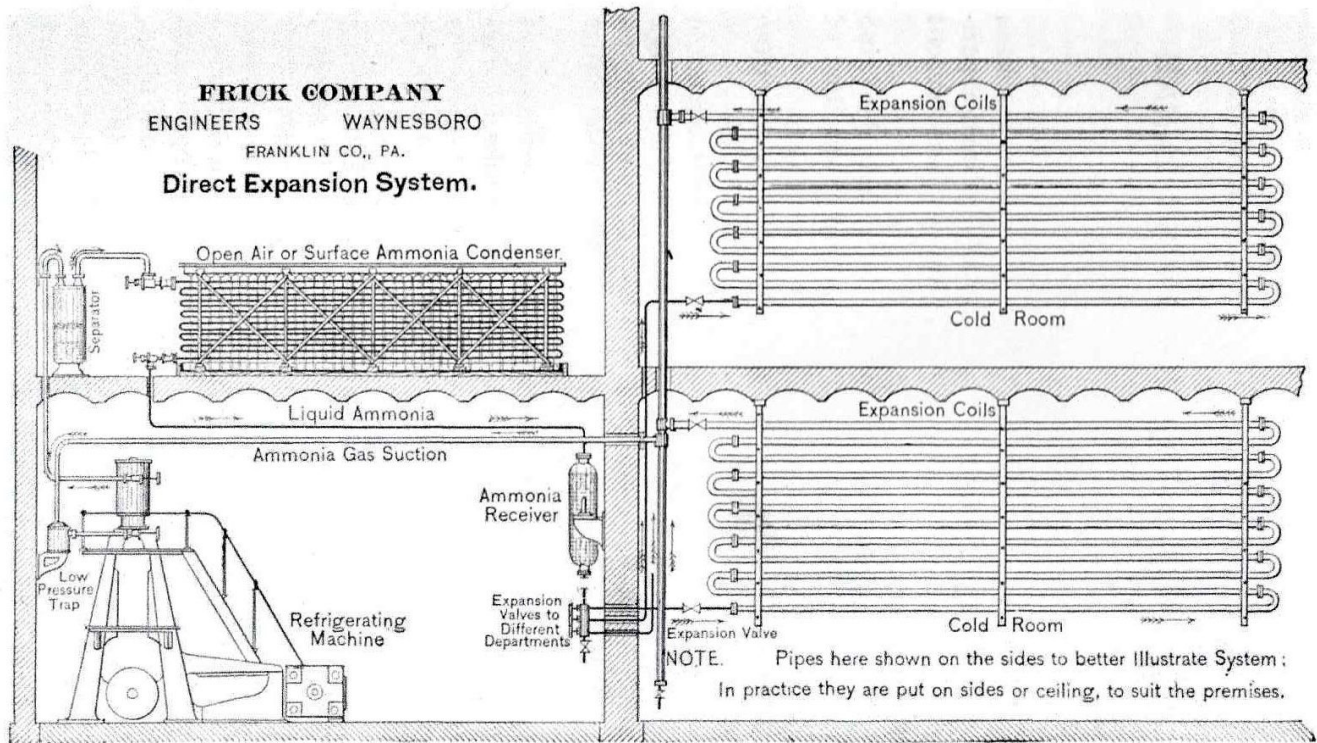
**150-TON MACHINE, REAR VIEW. LARGEST REFRIGERATING
MACHINES EVER MADE IN THIS OR ANY OTHER
COUNTRY. MANY IN SUCCESSFUL
OPERATION.**

FRICK COMPANY,
ENGINEERS, WAYNESBORO
 FRANKLIN COUNTY PA.
Complete Brine Plant
Brine System.



OUR COMPLETE BRINE PLANT WITH PIPES IN ROOMS.

FRICK COMPANY
ENGINEERS WAYNESBORO
 FRANKLIN CO., PA.
Direct Expansion System.



OUR COMPLETE DIRECT EXPANSION PLANT WITH PIPE COILS IN POSITION.

ECLIPSE REFRIGERATING MACHINERY.

ICE FOR SHIPMENT OF BEER.

We can furnish in connection with our refrigerating machinery a complete ice-making plant to supply ice used for packing and shipment of beer.

ATTEMPORATOR SYSTEM.

We are prepared to furnish attemporators or swimmers of various styles, complete with all connections and plans for erecting the same. We furnish the Ring attemporators, for brine, ice-water or direct expansion. For description of our Standard Attemporator system see page 118.

BAUDELLOT AND WATER COOLERS.

We furnish a full line of coolers for beer wort adapted for either brine or direct expansion ; or for cooling brine or sweet water for use in the attemporators ; also, for cooling distilled water in ice factory ; made of bright iron or copper-covered pipe, as desired (see page 119).

**REFERENCES FOR OUR ECLIPSE REFRIGERATING
MACHINERY IN BREWERIES.**

Below we publish a partial list of parties who have our improved Refrigerating and Ice-making Machinery in breweries. Please to ask them what they think of it, and learn for yourself if they support our claim that we build the best.

Phoenix Brewing Co., Baltimore, Md.,	27 ton Refrigerating capacity.
Gipps Brewing Co., Peoria, Ill.,	50 " " "
Sprattler & Mennell, Paterson, N. J.,	32 " " "
Herman Lackman, Cincinnati, O.,	65 " " "
Henry Fink, Harrisburg, Pa.,	32 " " "
Sebastian Helldorfer, Baltimore, Md.,	32 " " "
Frank Reisch & Bro., Springfield, Ill.,	50 " " "
Jos. Stein & Co., Louisville, Ky.,	23 " " "
Meyer & Reidlin, Covington, Ky.,	32 " " "
Bellevue Brewing Co., Cincinnati, Ohio,	50 " " "
Cumberland Brewing Co., Cumberland, Md.,	27 " " "
Parkersburg Brew. Co., Parkersburg, W. Va.,	27 " " "
Others in process of erection.	