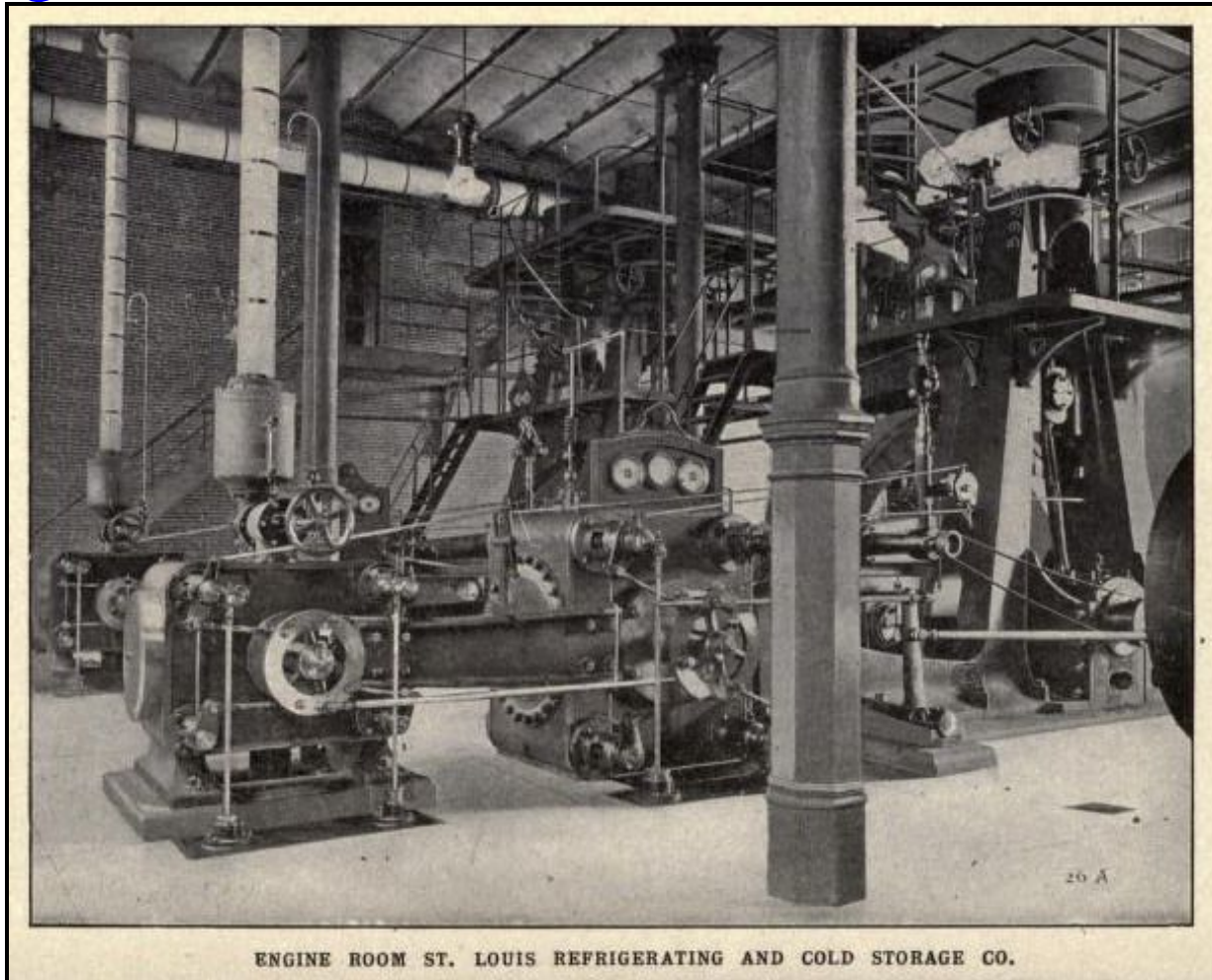


**American Refrigeration  
Cold Storage & Ice-Making 1875-1915**

# *Refrigeration and Ice-Making*



**From A PRACTICAL TREATISE of 1914**

Booth, C. G.  
Audel's

# ANSWERS

ON  
*Refrigeration  
and Ice Making*

A PRACTICAL TREATISE  
with ILLUSTRATIONS

BY  
GIDEON HARRIS  
and Associates



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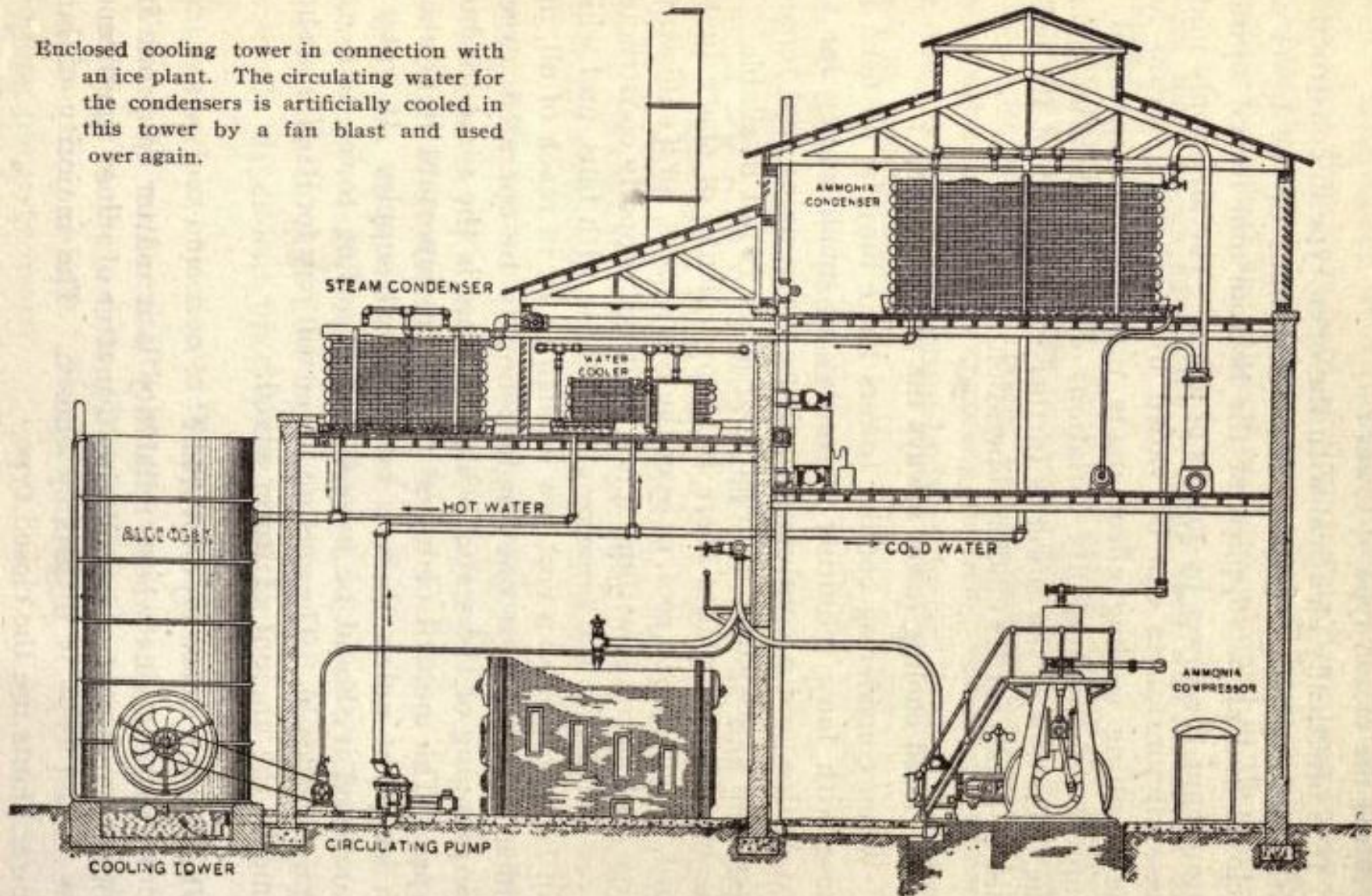
*With kind compliments*

PROF. DR CARL V LINDE

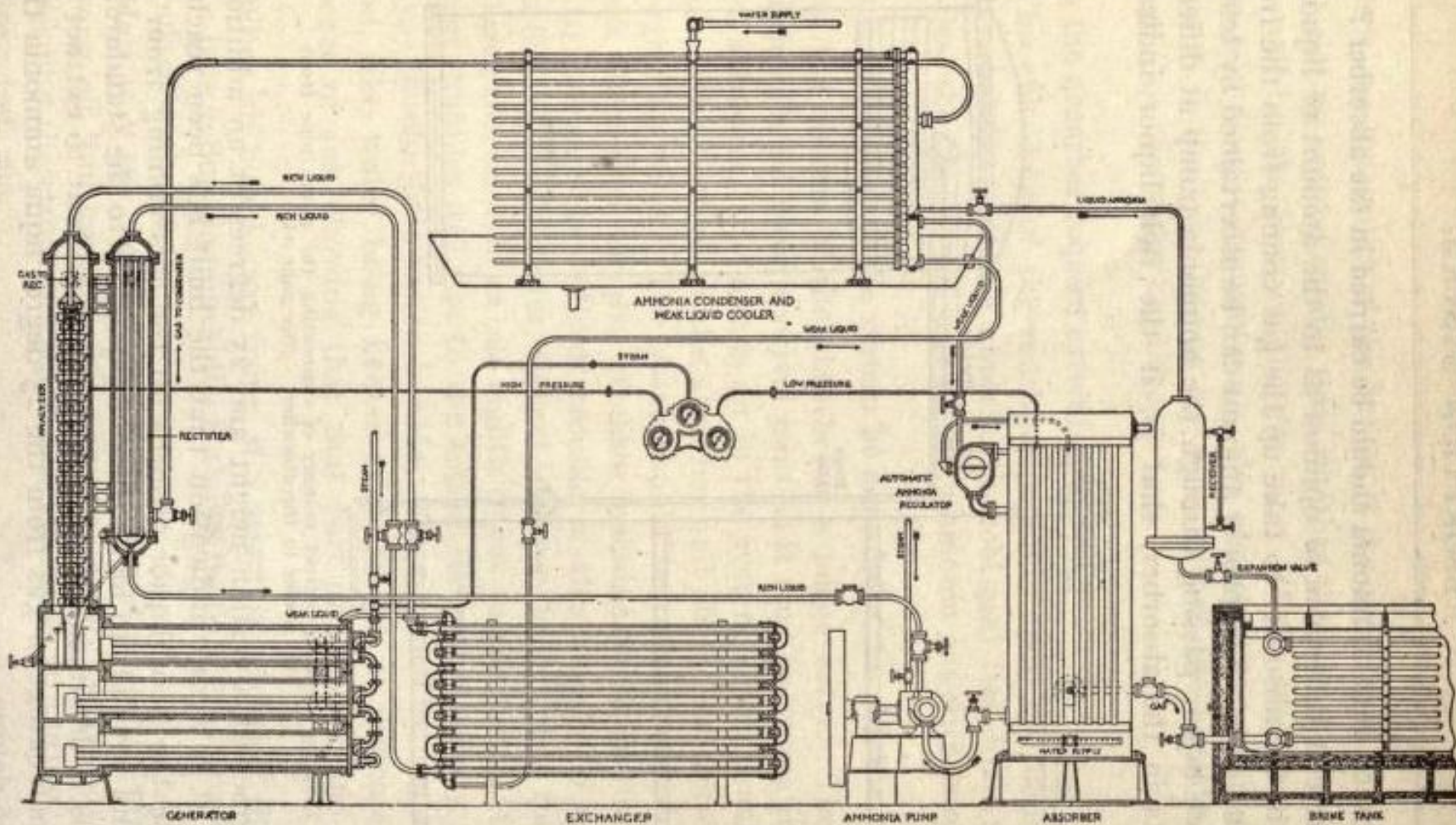
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Enclosed cooling tower in connection with an ice plant. The circulating water for the condensers is artificially cooled in this tower by a fan blast and used over again.

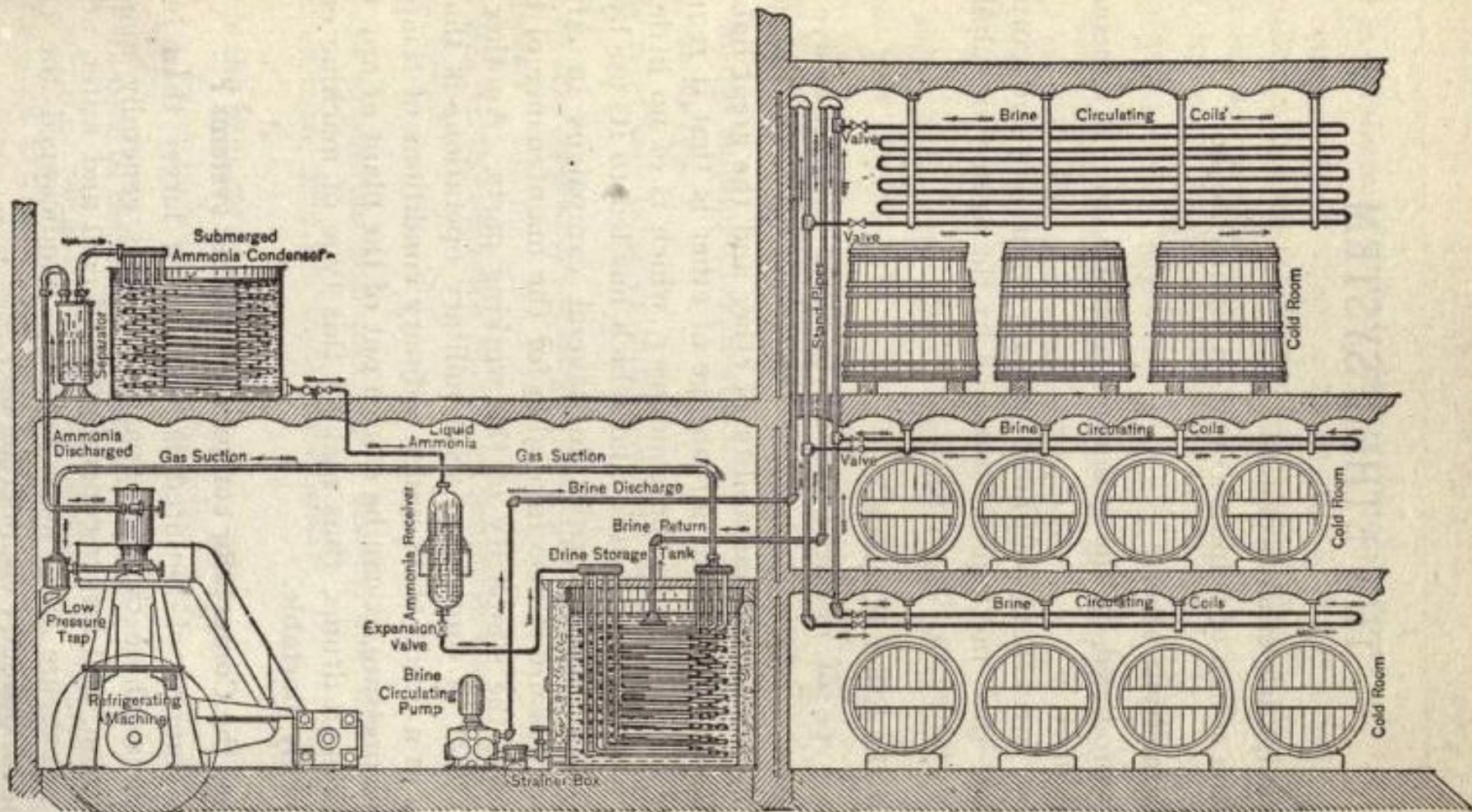






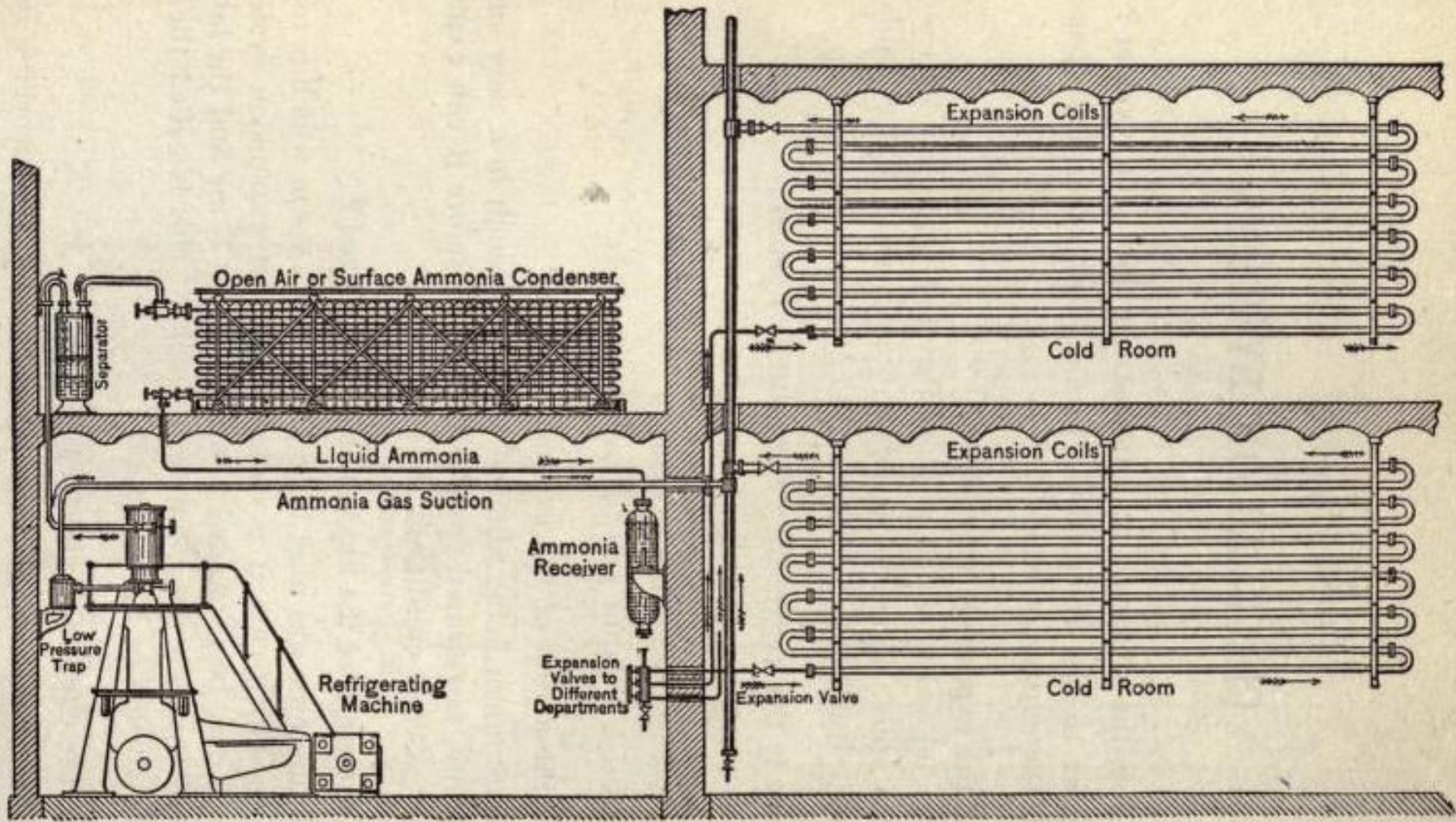
Sectional elevation of large absorption plant. In this system the rich liquor is circulated through the rectifier before passing through the exchanger, and thus some of the heat which would otherwise be carried off in the condensing water is saved.





A brine circulating system in brewery cellars.

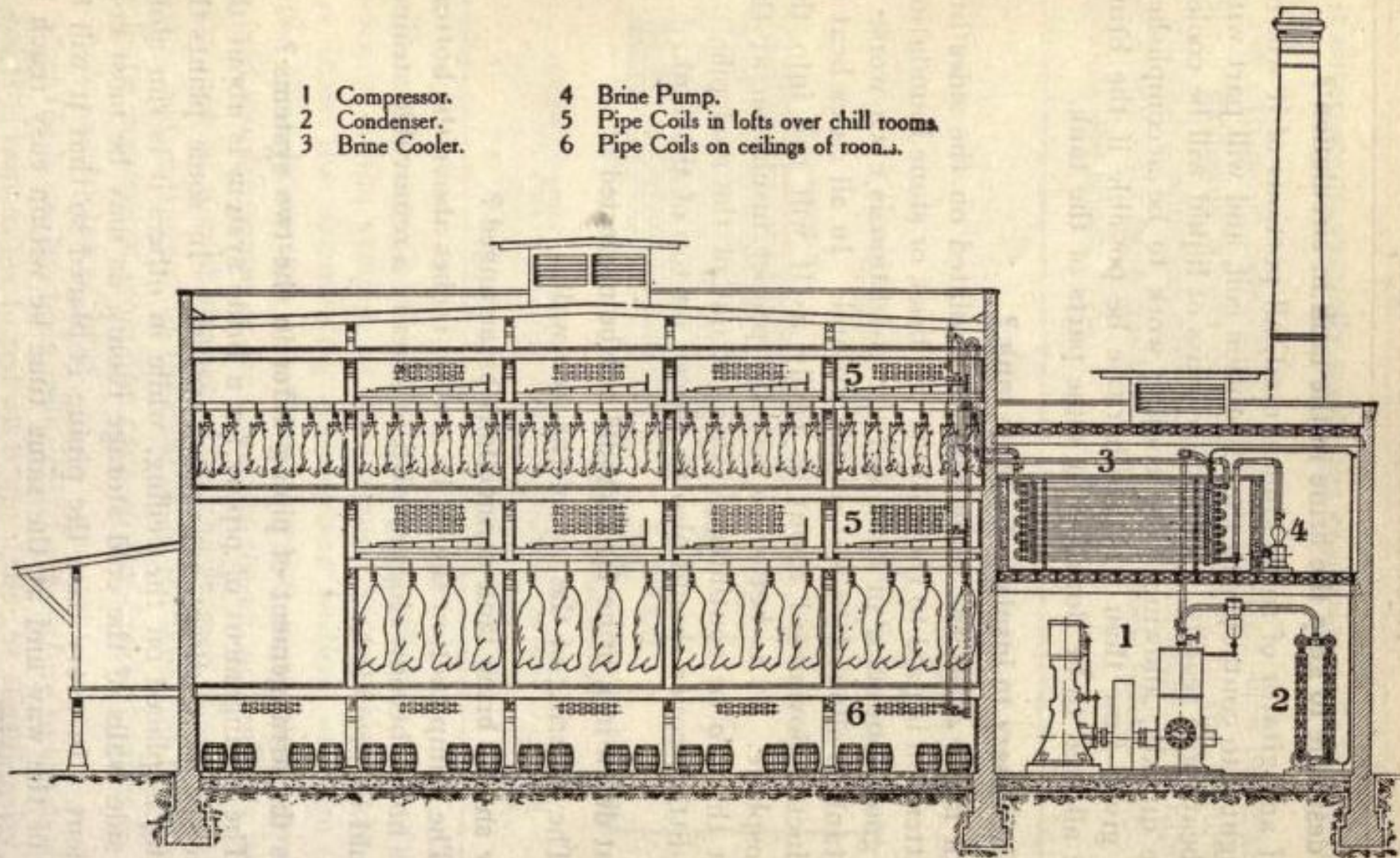




Eclipse direct expansion system. The pipes here are shown on the sides to better illustrate the system. In practice they may be placed either on the sides or ceiling as the circumstances may render necessary.

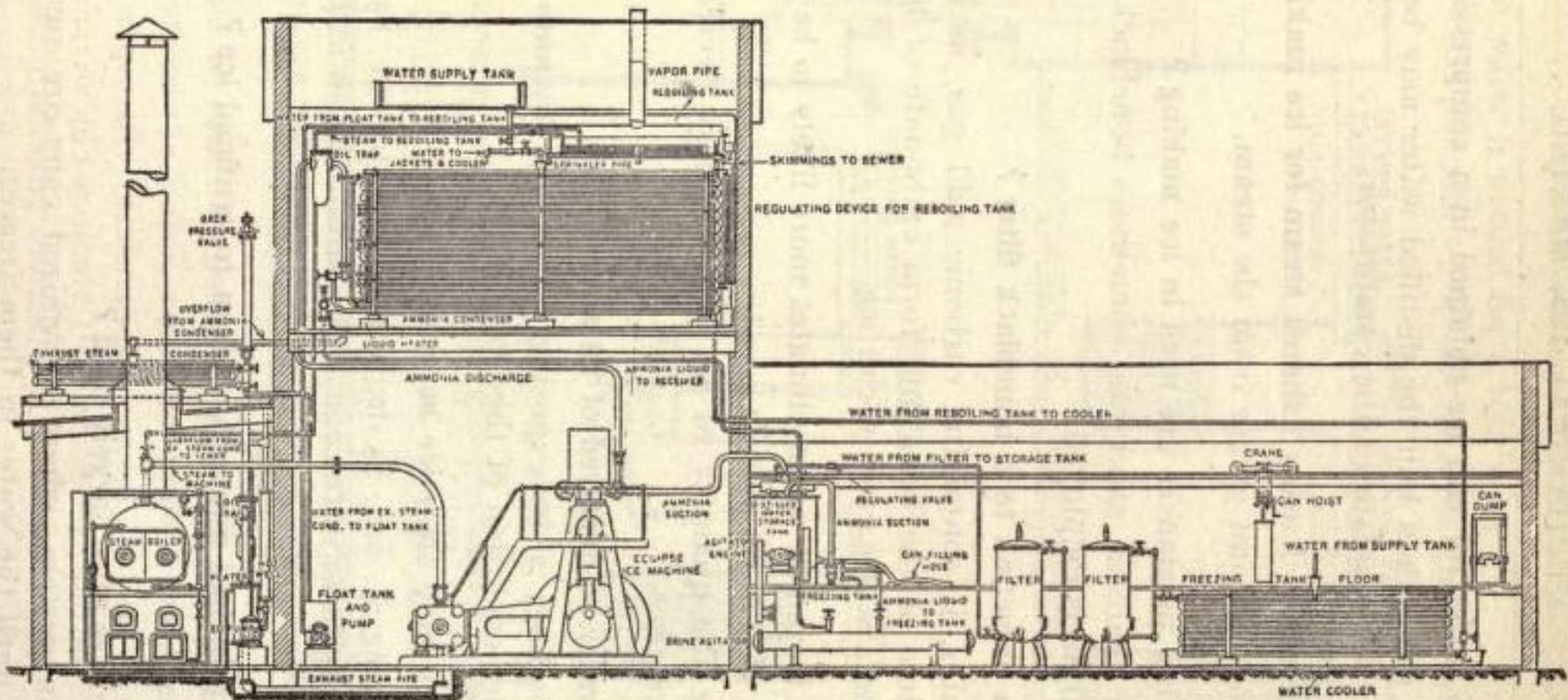


- |                 |   |
|-----------------|---|
| 1 Compressor.   | 4 Brine Pump.                           |
| 2 Condenser.    | 5 Pipe Coils in lofts over chill rooms. |
| 3 Brine Cooler. | 6 Pipe Coils on ceilings of rooms.      |



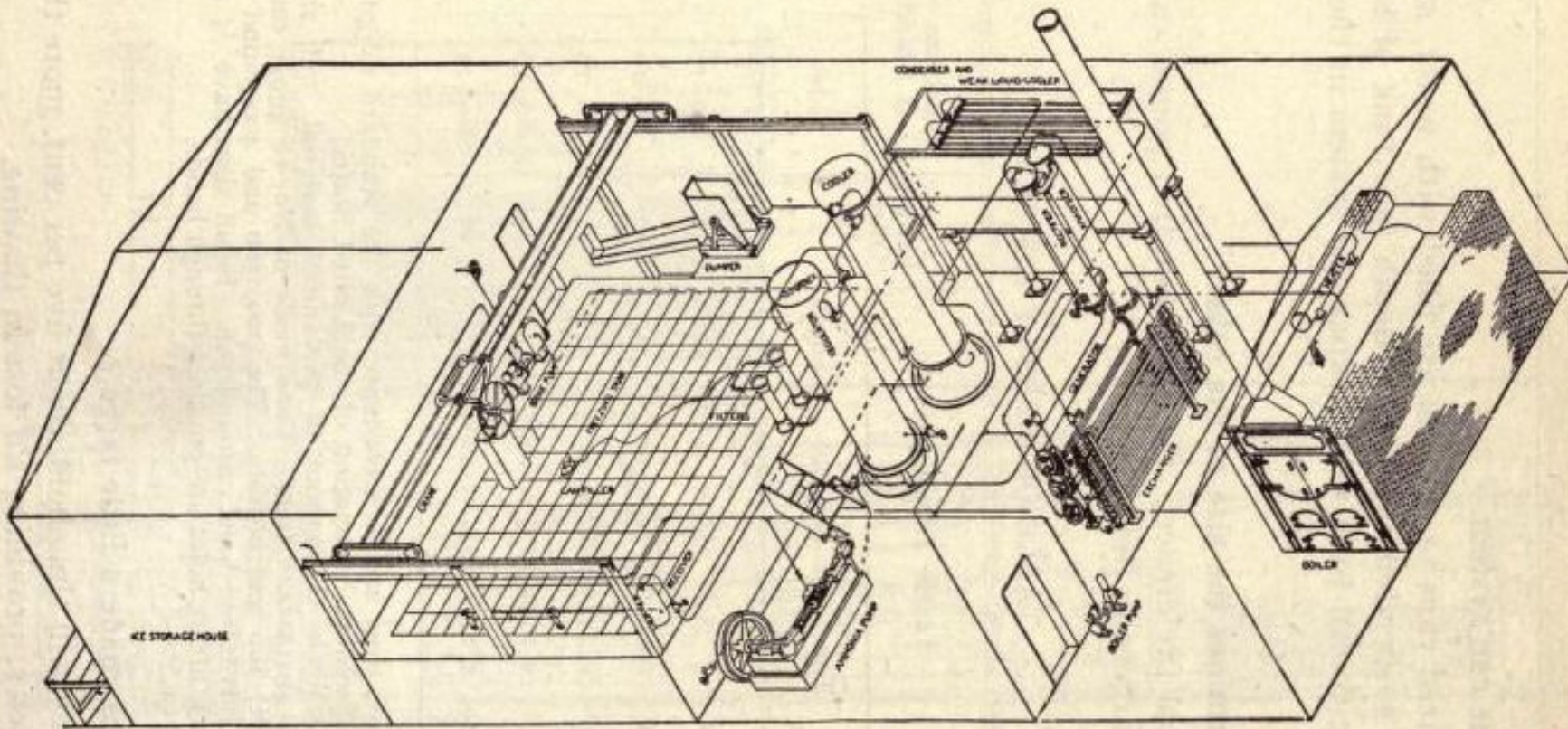
Brine circulating system of refrigeration in packing house.





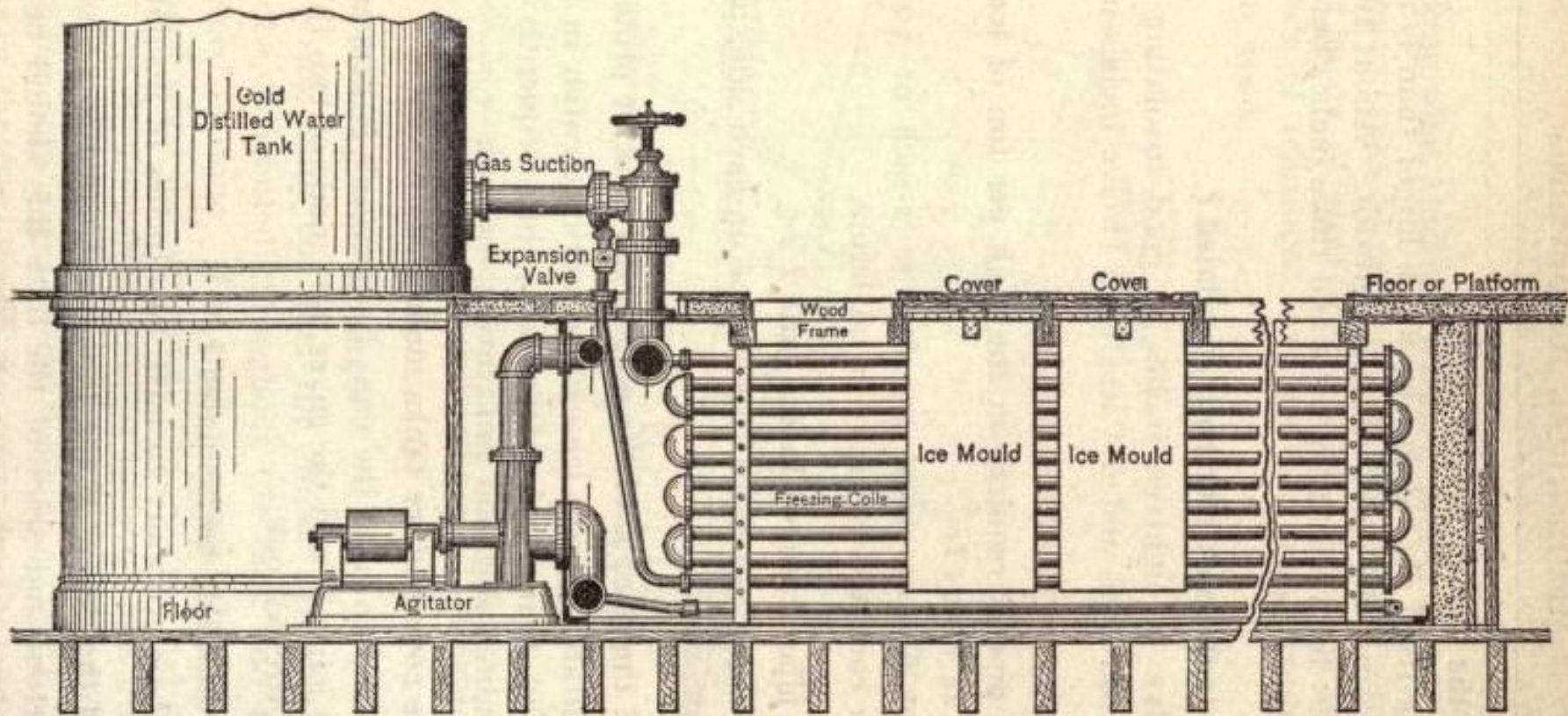
Sectional elevation of a complete "Eclipse" ice plant for can ice.





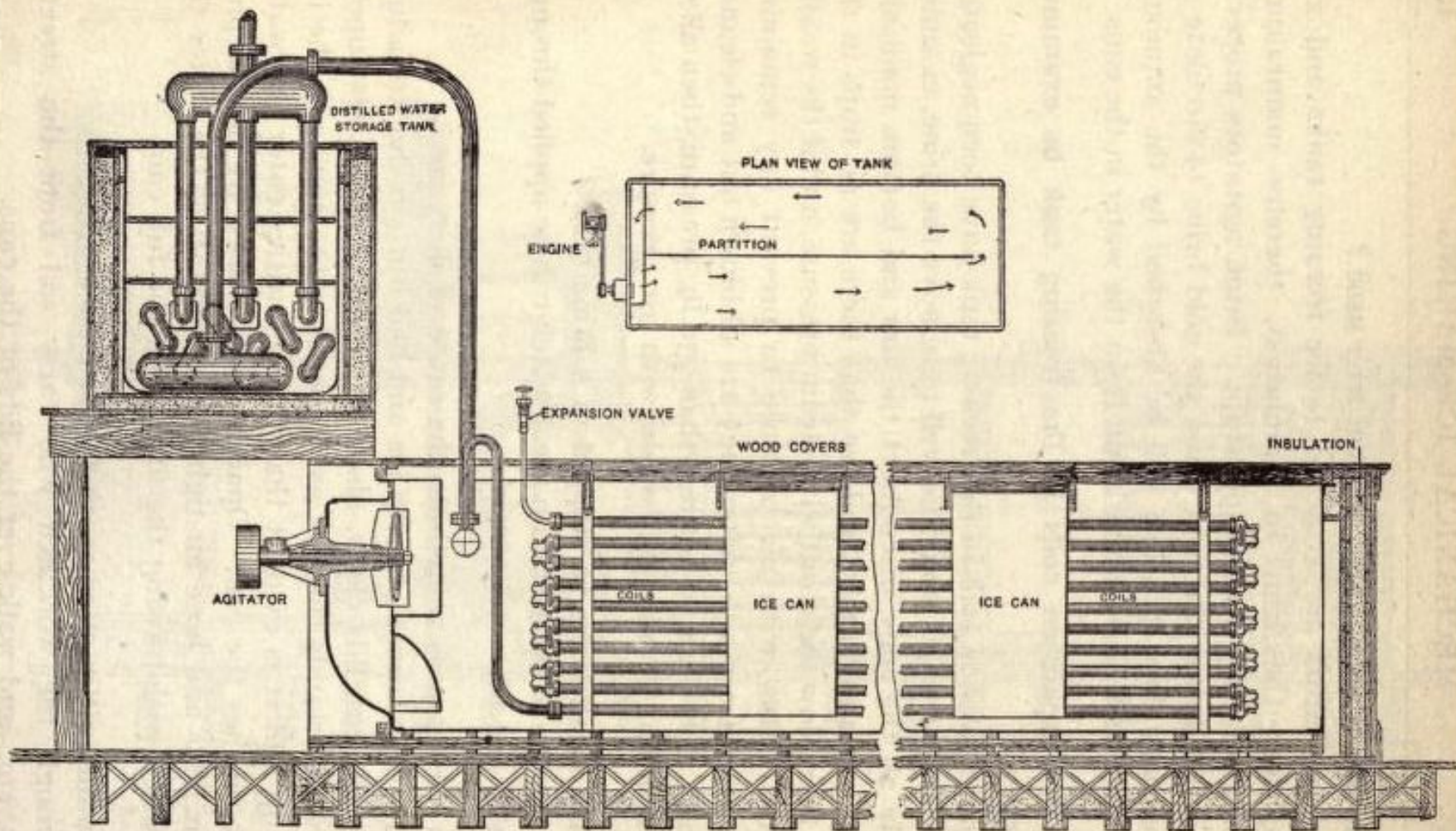
Perspective plan view of an absorption ice plant showing the complete apparatus and piping.





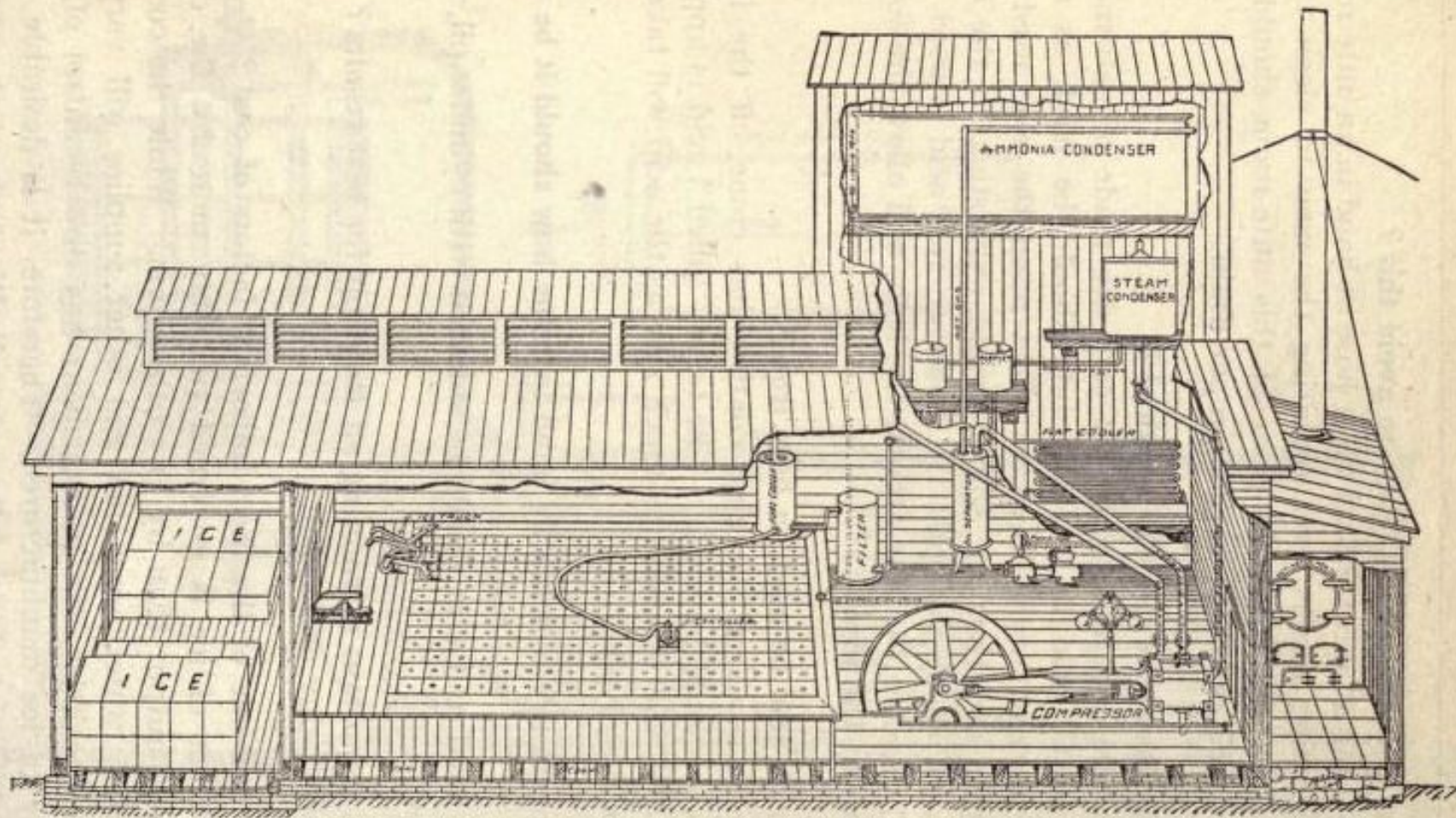
Cross section of freezing tank, showing a centrifugal agitator. The gas suction is carried through the water storage tank thus forecooling the water.





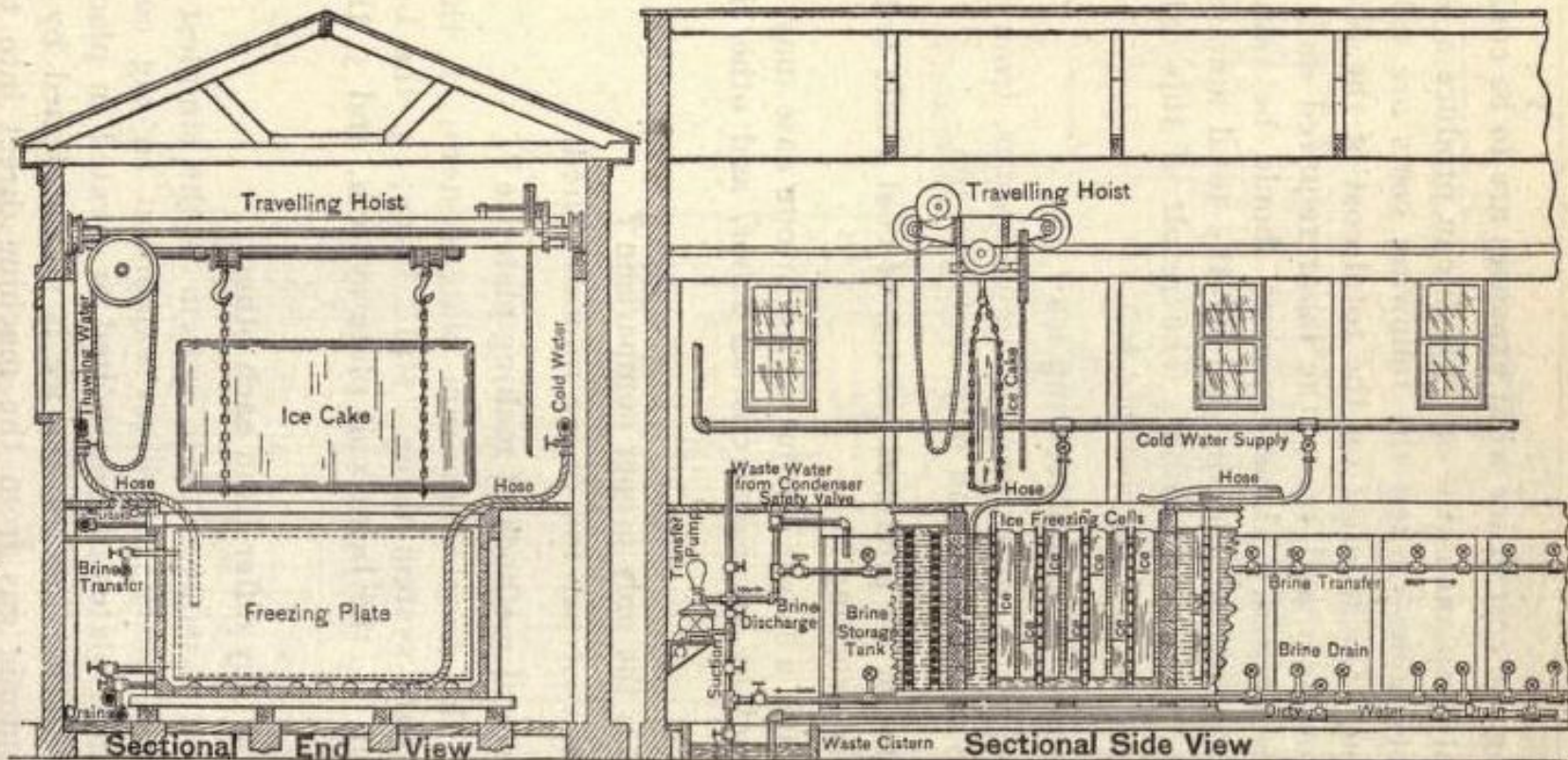
Detail arrangement of freezing tank of an Eclipse ice plant, showing the arrangement of the cans with covers, also the brine agitator. The agitator is in the shape of a propeller which keeps up a continuous circulation of brine between bottom and top of tank.





Perspective view of the interior of a small "De La Vergne" ice plant.





Sectional elevations of freezing cells of an Eclipse plate ice plant. The ice plates are hoisted by means of the traveling hoist after being thawed off the freezing plates by passing hot brine through the coils. The freezing plates with their coils are shown in heavy black lines with the ice forming on both sides of them.



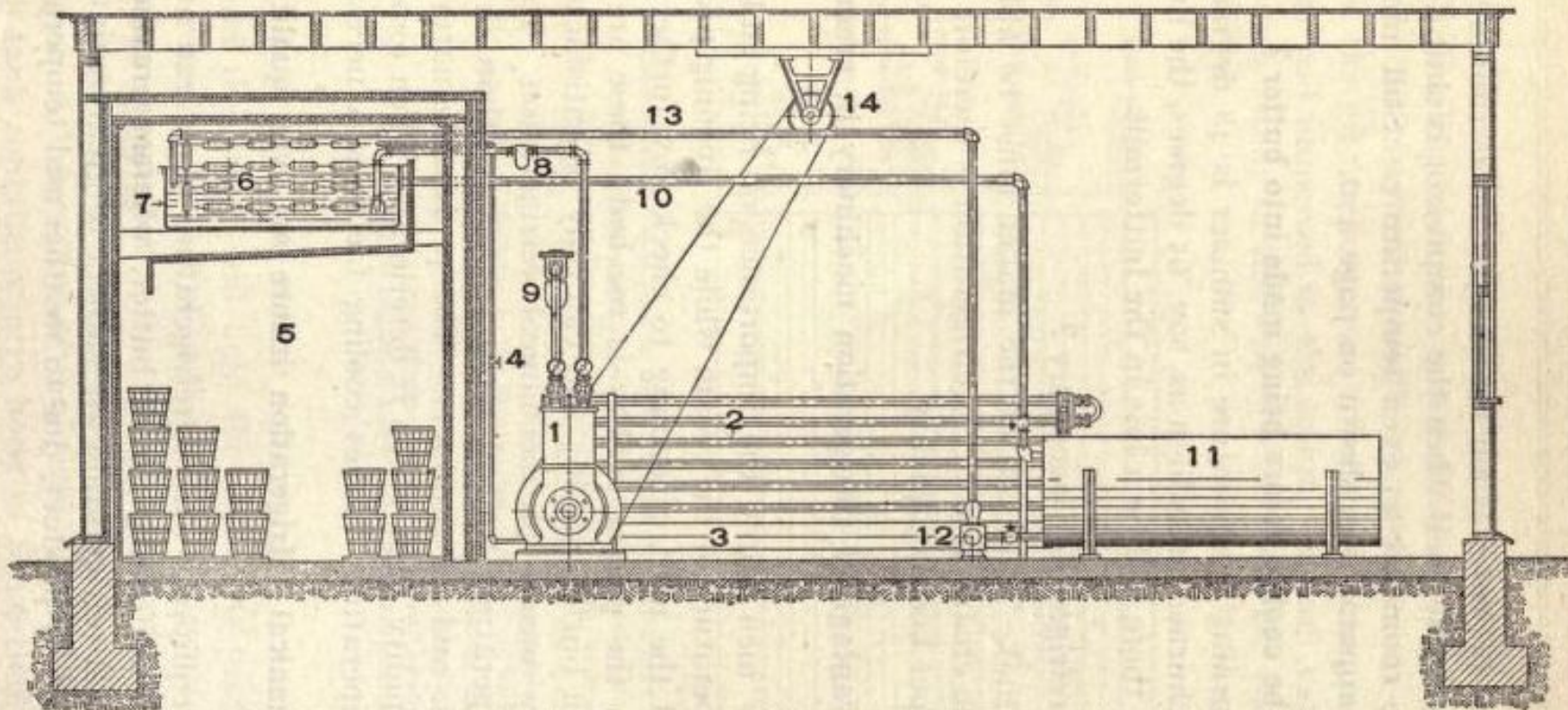


DIAGRAM SHOWING CREAMERY REFRIGERATING PLANT.

- |                      |                             |                       |
|----------------------|-----------------------------|-----------------------|
| 1 Ammonia Compressor | 6 Direct Expansion Coil.    | 11 Cream Vat.         |
| 2 Ammonia Condenser. | 7 Brine Tank.               | 12 Brine Pump.        |
| 3 Liquid Receiver.   | 8 Suction Scale Trap.       | 13 Brine Return Line. |
| 4 Expansion Valve.   | 9 Oil Trap.                 | 14 Line Shaft.        |
| 5 Cold Storage.      | 10 Brine Line to Cream Vat. |                       |



Cross-section of refrigerating plant for brewery, with fermenting and cooling cellars attached, showing the direct expansion system.

