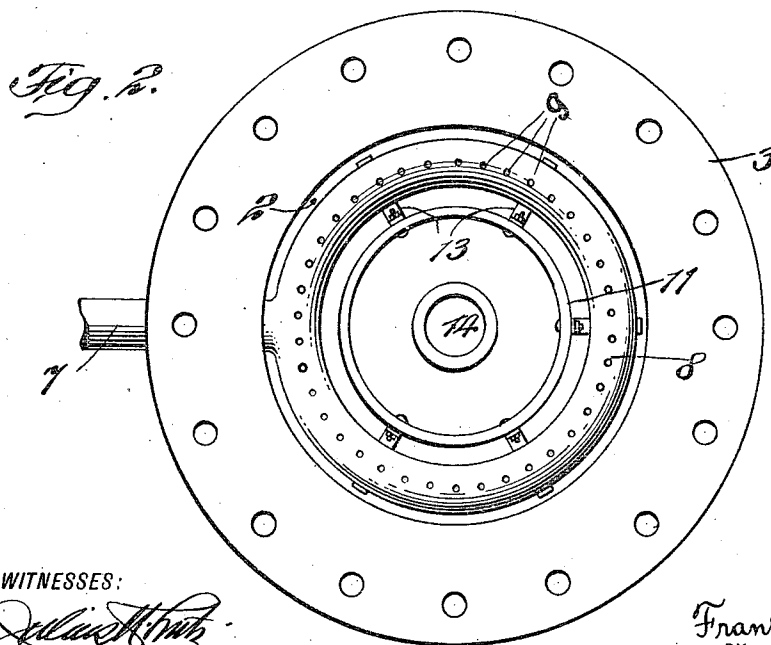
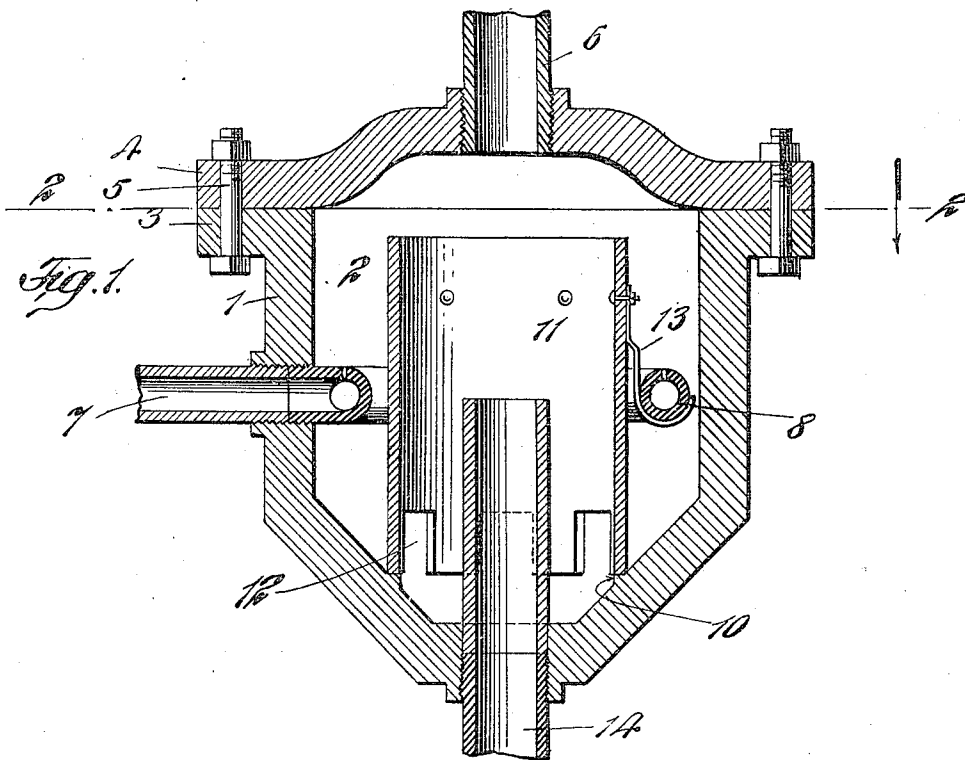


F. D. KOERKLE.
REFRIGERATING APPARATUS.
APPLICATION FILED MAY 18, 1909.

959,556.

Patented May 31, 1910.



WITNESSES:

Julius H. Webb
C. Lawrence French

INVENTOR

Frank D. Koerkle

BY

Commey

ATTORNEY

UNITED STATES PATENT OFFICE.

FRANK D. KOERKLE, OF NEW YORK, N. Y., ASSIGNOR OF THREE-EIGHTHS TO SAMUEL L. RICHARDSON, OF NEW YORK, N. Y.

REFRIGERATING APPARATUS.

959,556.

Specification of Letters Patent.

Patented May 31, 1910.

Application filed May 18, 1909. Serial No. 496,702.

To all whom it may concern:

Be it known that I, FRANK D. KOERKLE, citizen of the United States of America, residing at New York city, in the county and State of New York, have invented certain new and useful Improvements in Refrigerating Apparatus, of which the following is a specification.

The present invention relates to an apparatus for saturating a liquid with gas and refers specifically to a device of this character employed in connection with refrigerating and ice making plants, the device being adapted for the saturation of aqua ammonia with ammonia gas prior to its admission to the absorber forming part of a refrigeration plant.

The invention is susceptible of embodiment in various forms and in the accompanying drawing I have shown the form at present preferred by me.

Figure 1 is a vertical sectional view taken approximately through the central part of the apparatus; and Fig. 2 is a horizontal sectional view taken on the line 2—2.

Referring to the drawing by reference numeral 1 designates a casing preferably of substantially inverted cone shape, within which is the mixing chamber 2. The casing is provided with an annular flange 3 forming a bearing for the head 4 which is secured to the casing by means of bolts 5. Ammonia gas from any suitable source is admitted to the mixing chamber 2 through a pipe 6 preferably threaded at one end to engage a corresponding thread in a bore formed at approximately the central part of the head. The liquor (aqua ammonia) is admitted to the casing through a pipe 7 passing through the lateral wall of the casing, the pipe 7 being in communication with an annular distributor 8 provided with a plurality of equidistantly spaced holes 9 through which the liquid flows into the mixing chamber in a number of comparatively fine streams. This arrangement of distributor whereby the liquid flow is divided into a number of streams is advantageous in that the fine streams take up a greater quantity of the gas than would one solid stream and the liquid is more uniformly charged with the gas.

It will be understood that the greater the degree of saturation of liquid with gas, the less will be its specific gravity and conse-

quently that part of the liquid which is well charged with gas will rise to the top, and to prevent any liquid but such as is thoroughly charged from passing out of the mixing chamber, I arrange therein upon a shoulder 10 a baffle shell 11 arranged preferably within the annular distributor above referred to. This baffle shell is provided at its lower portion with notches or serrations 12 through which the charged liquid passes to flow out to an absorber (not shown) through the seal pipe 14, the latter extending upwardly within the casing to a distance about the middle of the distributor, the latter being supported from the baffle shell by brackets 13.

Having now particularly described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a device of the character described, the combination with a casing having a gas admission port and fluid emission port, of means for admitting fluid to the casing to be charged with gas, and means surrounding the fluid emission port for deflecting gas saturated fluid to the emission port and retaining unsaturated fluid within the casing, substantially as described.

2. In a device of the character described, the combination with a casing having a gas admission port and a fluid emission port, of an annular liquid distributor for admitting fluid to the casing, and means surrounding the emission port for deflecting gas saturated fluid to the emission port and retaining unsaturated fluid within the casing, substantially as described.

3. In a device of the character described, the combination with a casing provided with a gas admission port and a fluid emission port, of means for admitting fluid to the casing, and a baffle shell for deflecting gas saturated fluid to the emission port and retaining unsaturated fluid within the casing, substantially as described.

4. In a device of the character described, the combination with a casing provided with a gas admission port and a fluid emission port, of an annular liquid distributor for admitting fluid to the casing, and a baffle shell for deflecting gas saturated fluid to the emission port and retaining unsaturated fluid within the casing, substantially as described.

5. In a device of the character described,

the combination with a casing having a gas admission port and a fluid emission port, of an annular liquid distributor within the casing, and a baffle shell embraced by the distributor, substantially as described.

6. In a device of the character described, the combination with a casing, provided with a gas admission port and a fluid emission port, of an annular liquid distributor within the casing, and a baffle shell having

a serrated edge, embraced by the casing and surrounding the liquid emission port, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

FRANK D. KOERKLE.

Witnesses:

OTTO MUNK,
CLARISSA FRANCK.