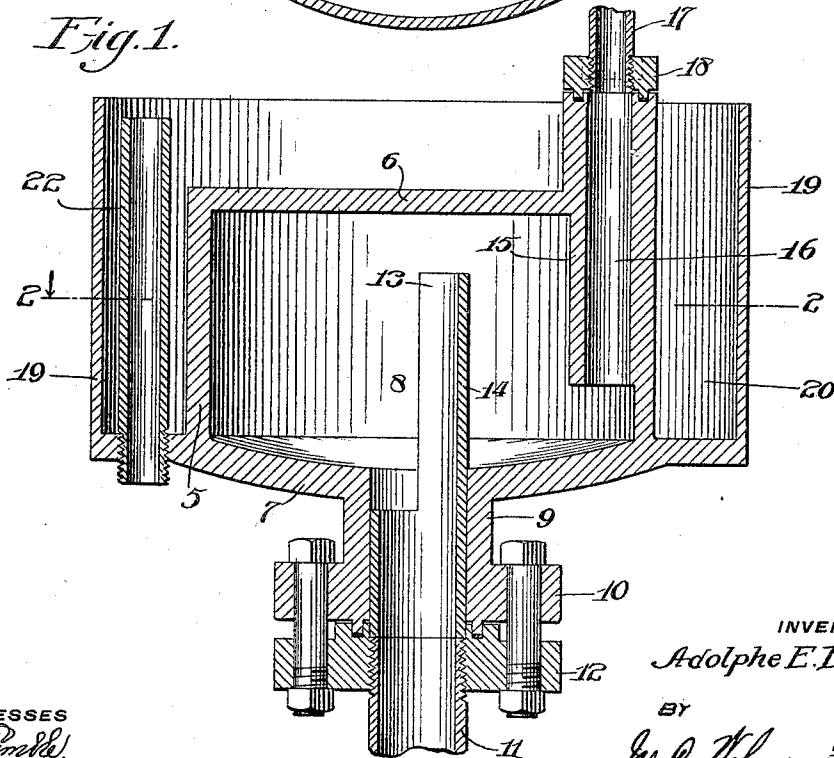
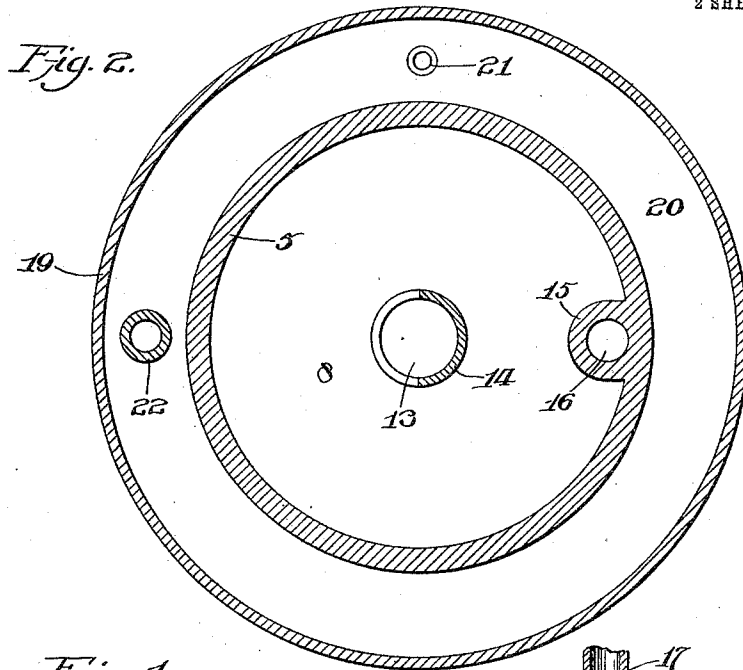


A. E. BOSSÉ.
AMMONIA RECTIFIER.
APPLICATION FILED APR. 17, 1911.

1,051,383.

Patented Jan. 28, 1913.

2 SHEETS—SHEET 1.



WITNESSES

W. H. Daniels

William A. Atchison

INVENTOR

Adolphe E. Bosse

BY

Geo. C. Holmsmith

ATTORNEY

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2 SHEETS—SHEET 2.

Fig. 3.

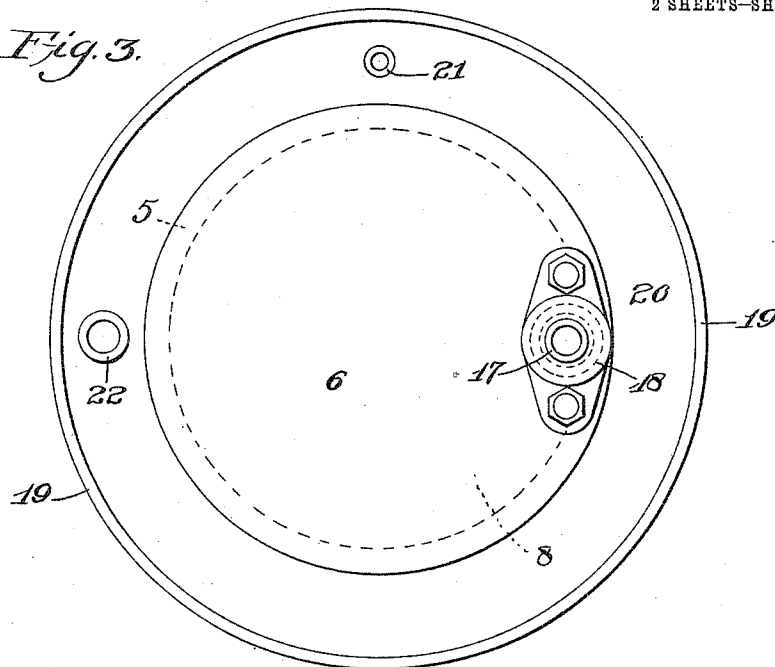
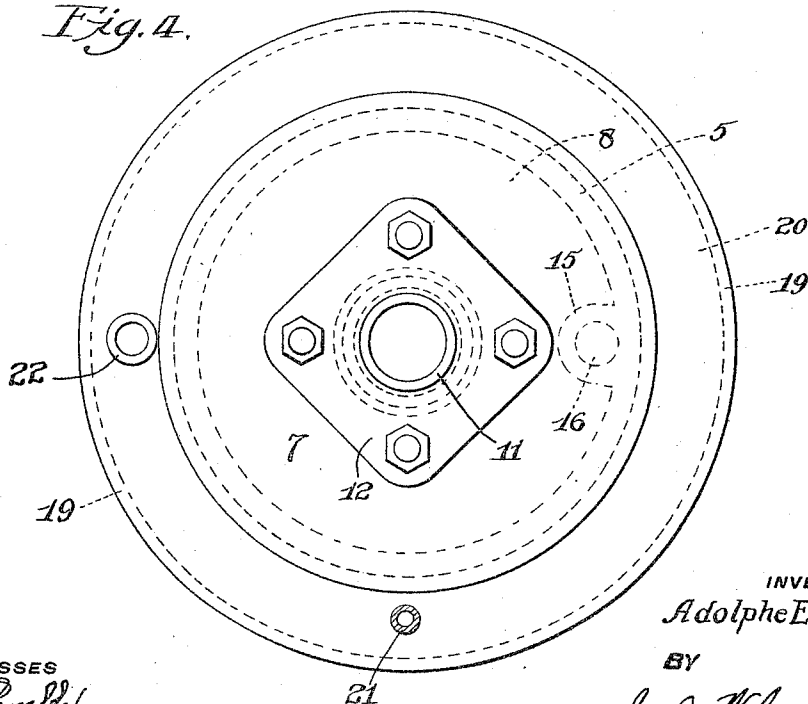


Fig. 4.



WITNESSES

Wm. Gamble
William L. Atchison

INVENTOR

Adolphe E. Bosse

BY

Geo. C. Wolensmith
ATTORNEY

UNITED STATES PATENT OFFICE.

ADOLPHE E. BOSSÉ, OF PITTSBURGH, PENNSYLVANIA.

AMMONIA-RECTIFIER.

1,051,383.

Specification of Letters Patent.

Patented Jan. 28, 1913.

Application filed April 17, 1911. Serial No. 621,456.

To all whom it may concern:

Be it known that I, ADOLPHE E. BOSSÉ, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Ammonia-Rectifiers, of which the following is a specification.

My invention relates to ammonia rectifiers for the purpose of separating the water vapor from the anhydrous ammonia gas in absorption ammonia refrigerating systems, the device being adapted to be interposed between the ammonia generator, so called, in which the ammonia gas is driven off from the aqua ammonia solution, and the condenser in which the ammonia gas is thereafter reduced to liquefied anhydrous ammonia.

The principal object of my invention is to provide a simple and efficient device for the purpose before stated, constituting in effect a sub-condenser and separator for eliminating the water vapor from the ammonia gas.

The nature and characteristic features of my invention will be more readily understood from the following description taken in connection with the accompanying drawings forming part hereof, in which—

Figure 1 is a vertical central section of an ammonia rectifier embodying the main features of my present invention; Fig. 2 is a horizontal section thereof taken on the line 2—2 of Fig. 1; and Figs. 3 and 4 are respectively top and underneath plan views thereof.

Referring to the drawings, in the particular embodiment of my invention there shown, 5 is a cylindrical wall which in conjunction with the horizontal top plate 6, and the concaved bottom plate 7, forms a chamber 8 through which the gases are constrained to pass. Depending downwardly from the bottom wall 7 is a neck 9 provided with a flange 10 for the purpose of connecting the supply pipe 11 therewith by means of the flange 12. Mounted in the depending neck 9 is a pipe 13 which extends upwardly into the chamber 8, but having the portion which extends therein cut half away so that the entering gases are deflected toward the one side of the chamber 8. The outlet from the chamber 8 is arranged at the opposite side from that toward which the gases are deflected as aforesaid, and is

formed by an extension 15 from the wall 5, which extension 15 is provided with a passageway 16 communicating with the chamber 8 near the bottom thereof. The outlet pipe 17 is connected by means of the flange 18 so as to be in communication with the passageway 16. Surrounding the cylindrical wall 5 is a concentric wall 19 which extends some distance above the top plate 6 of the chamber 8 to afford a surrounding water jacket 20 in which water of a proper temperature may be contained to insure the desired amount of condensation. The water is supplied to the water space 20 by means of a supply pipe 21, and is maintained a sufficient height by means of a pipe 22 into which it may overflow if too large a quantity enters through the supply pipe 21. It will be seen that the overflow pipe 22 may if desired be of such height that the cooling water will cover the top plate 6, although the arrangement is such that this pipe may be removed quite readily and a shorter pipe substituted therefor if it be found that a sufficient cooling effect can be obtained with a lower water level. It will also be seen the pipe 13 may be readily altered in shape to suit various conditions which may arise in practice, that is to say the amount cut away may be varied as well as the height of the remaining portion where a greater or less amount of condensation is required to effectively insure the separation of the water vapor from the ammonia gas. The purpose of the pipe 13 will be apparent as constituting a deflector to cause the gases to impinge against the walls of the chamber before passing to the outlet 16 so that the separation will be insured. It should be understood that the separation of the water vapor is mainly effected by the condensing action of the walls of the chamber, in that the water will be condensed at a temperature at which the ammonia will remain in a gaseous condition, any of the ammonia however which may be condensed will be revaporized as the liquid runs over the bottom of the chamber which is not water jacketed. The condensate which is formed in the chamber 8 will be returned to the generator by gravity through the supply pipe 11.

Having thus described the nature and characteristic features of my invention, what I claim as new and desire to secure by Letters Patent is:

1. An ammonia rectifier comprising a

chamber, an inlet and an outlet, and a deflector mounted in the inlet comprising a pipe extending into the chamber having a portion cut away on the side opposite the outlet.

2. An ammonia rectifier comprising a chamber, an inlet at the center of the base thereof, an outlet at one side thereof, and a deflector comprising a pipe extending into the chamber having a portion cut away on the side opposite the outlet.

3. An ammonia rectifier comprising a chamber, an inlet at the center of the base thereof, an outlet at one side thereof, and a deflector comprising a pipe extending into the chamber having a portion cut away on the side opposite the outlet, and means for cooling the walls of the chamber comprising a water jacket surrounding the same.

4. An ammonia rectifier comprising a chamber, an inlet at the center of the base thereof, an outlet at one side thereof, a de-

flector comprising a pipe extending into the chamber having a portion cut away on the side opposite the outlet, means for cooling the walls of the chamber comprising a water jacket surrounding the same, a supply for said water jacket and a removable overflow pipe for maintaining a constant level in said water jacket.

5. An ammonia rectifier comprising a chamber, an inlet in the bottom of said chamber, an outlet communicating with said chamber near the bottom and at one side thereof, and a deflector arranged in the chamber to direct the gases toward the side of the chamber opposite the outlet.

In testimony whereof, I have hereunto signed my name in the presence of two witnesses.

ADOLPHE E. BOSSÉ.

Witnesses:

LILLIAN H. NEREIL,
G. A. BLOCH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."