

H. KOPPERS.
AMMONIA SATURATOR.
APPLICATION FILED MAY 20, 1909.

953,960.

Patented Apr. 5, 1910.

Fig. 1

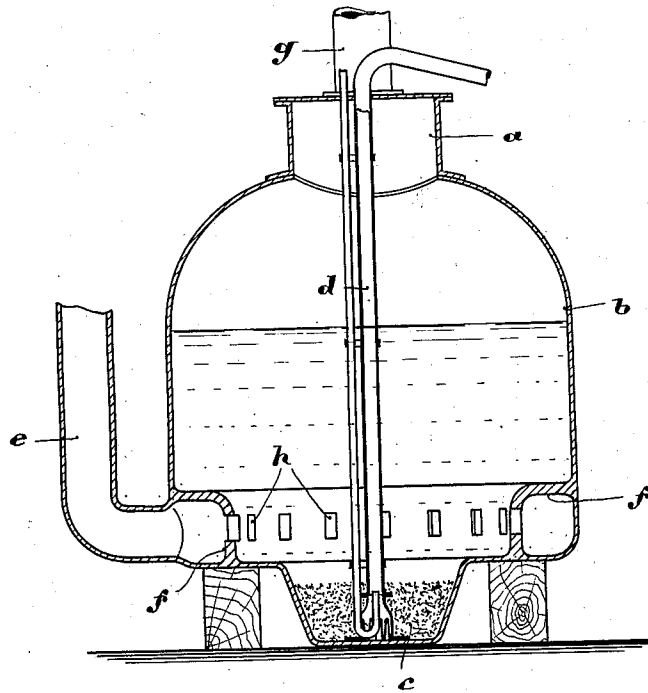
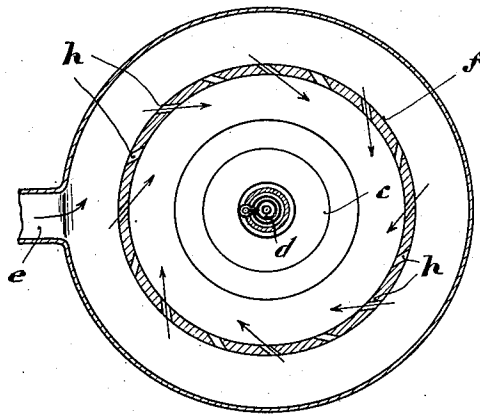


Fig. 2



Witnesses.
W. P. Schuch.
Edward Schori.

Inventor:
Heinrich Koppers
by his attorney
Frank & Briesen

UNITED STATES PATENT OFFICE.

HEINRICH KOPPERS, OF ESSEN-ON-THE-RUHR, GERMANY.

AMMONIA-SATURATOR.

953,960.

Specification of Letters Patent.

Patented Apr. 5, 1910.

Application filed May 20, 1909. Serial No. 497,171.

To all whom it may concern:

Be it known that I, HEINRICH KOPPERS, a citizen of the German Empire, and resident of 30 Isenbergstrasse, Essen-on-the-Ruhr, Germany, have invented a new and useful Saturation Vessel for the Production of Solid Salts from Gases, of which the following is a specification.

This invention relates to a saturation vessel for the production of solid salts from gases. In this vessel the adhesion of the precipitated salt to the inner walls of the vessel is prevented by imparting to the bath a continuous eddy movement, and thus destroying the quiescence required for the formation of deposits, and breaking away deposits already present. Observation in each particular case allows of ascertaining the amount of eddy movement required for producing the desired result.

A development of the general principle here stated consists in utilizing the velocity of the inflowing gases for the purpose of imparting the movement referred to, the said gases being introduced into the bath in an approximately tangential direction. The usual arrangement being that several streams of gas enter the bath from an annular pipe immersed in the bath all that is required is to make the nozzles or ducts from which the gas issues inclined to the radii of the circle, instead of radial.

A construction embodying this improvement is shown in the accompanying drawing, in which—

Figure 1 is a vertical section of the apparatus and Fig. 2 a horizontal section.

In the drawing *b* represents a vessel of circular cross-section, closed at the top by a cap *a* and having a lower pocket *c*, for the reception of the precipitated salt, which is removed at intervals by means of a jet-pump having a discharge pipe *d*, that extends through vessel *b*, into pocket *c*. The gases are admitted through a pipe *e*, to the distributing ring or channel *f*, which is integral with the vessel. After passing through the acid the gases pass out of the vessel through pipe *g*.

The ducts *h* in the wall of the distributing ring *f* are inclined all at the same angle to the radius, so that the streams of gas enter the bath aslant and thus produce a torque which creates and maintains an eddy movement of the liquid. The comparatively large thickness of the leaden wall of the ring *f* is sufficient to give the ducts *h* the length required for producing the desired effect.

What I claim is:—

A saturation vessel for the production of solid salts from gases, with an annular distributing pipe inside said vessel and ducts in the wall of said pipe inclined to the radius.

Signed by me at Joliet, Illinois, this 11th day of May 1909.

HEINRICH KOPPERS.

Witnesses:

LOUIS WILPETTE,
R. GUNDERSON.