

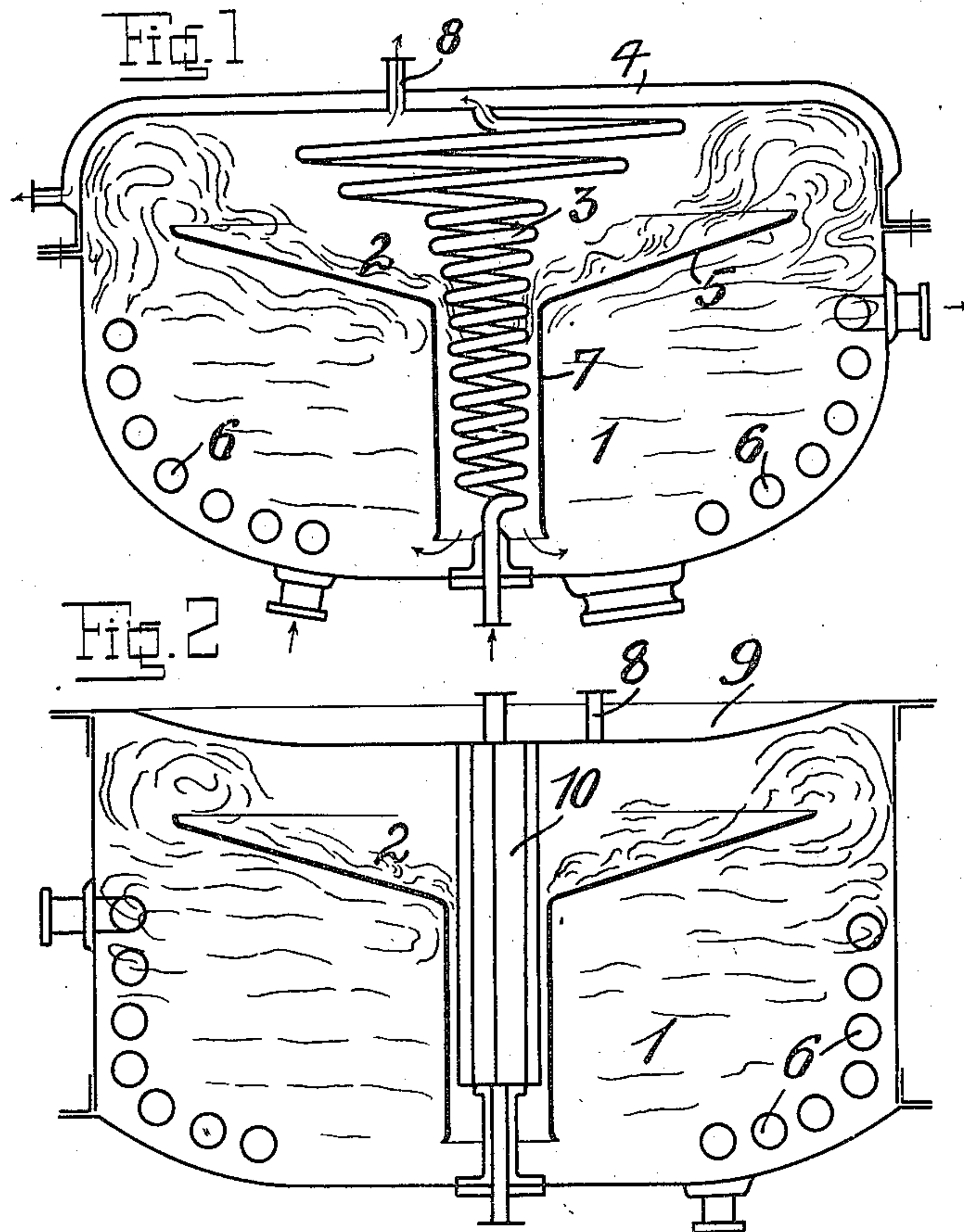
No. 847,085.

PATENTED MAR. 12, 1907.

F. H. LEHNERT.

APPARATUS FOR TREATING FOAMING LIQUIDS.

APPLICATION FILED JUNE 23, 1906.



Witnesses:
Paul Arras
Chemist H. Schilling

Inventor:
Franz Heinrich Lehnert
by Paul Schilling,
his attorney.

UNITED STATES PATENT OFFICE.

FRANZ HEINRICH LEHNERT, OF DRESDEN-PLAUEN, GERMANY, ASSIGNOR
TO ERNST FISCHER, OF DRESDEN, GERMANY.

APPARATUS FOR TREATING FOAMING LIQUIDS.

No. 847,085.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed June 23, 1906. Serial No. 323,011.

To all whom it may concern:

Be it known that I, FRANZ HEINRICH LEHNERT, a subject of the Emperor of Austria, and residing at Dresden-Plauen, Germany, have invented certain new and useful Improvements in Apparatus for Treating Foaming Liquids, of which the following is a specification.

The present invention has reference to an apparatus for treating foaming liquids and relates more especially to an apparatus for quickly condensing the foam in boiling certain liquids—for instance, in the manufacture of soap—and it essentially consists of special means for cooling the ducts leading back the froth or foam into the boiling mass.

In order to make the invention more readily understood, I will now describe it with reference to the accompanying sheet of drawings, Figure 1 of which represents a vertical sectional elevation of a boiler embodying my invention. Fig. 2 is a vertical sectional elevation of modified constructions.

Within the boiler 1, preferably of cylindrical shape, is suspended a funnel 2 and a cooling pipe-coil 3, extending partly into said funnel and communicating at the top with the cooling-cover 4. The funnel-spread 5 divides the boiler into two chambers, the lower one of which is heated by suitable means—for instance, by a steam-coil 6. Both chambers intercommunicate by means of the stem 7 of the funnel. Any suitable cooling medium, such as cold water or air or the like, is sent through the coil 3 and the hollow cover 4. Through the latter is carried a small vent-pipe 8 for allowing escape of gases generated during the boiling process, but not wanted.

In the modification shown in Fig. 2 the cooling of the cover of the boiler is obtained by simply running cold water into the depressed cover 9. The cooling-coil (shown in Fig. 1) in this instance is replaced by a profiled central tube 10 of relatively large cross-section. Such apparatus may be used for instance in the manufacture of certain soaps, and the operation is then as follows: The mixture of the substances and water is filled into the lower chamber and boiled.

The carbonic acid generated during the boiling period escapes, as shown by the foaming of the mixture. The froth and the water-vapors rising during the boiling process are condensed more or less on the cooled boiler-cover and drop back into the funnel and pass through the cooled ducts leading back to the lower boiler-chamber, and are thereby still further condensed. The freed carbonic acid escapes through the vent-pipe 8.

I am aware that apparatus have been constructed for condensing the foam and water-vapor, but have found that the condensation by means of such known apparatus can be accelerated to a considerable degree by providing special means for cooling the ducts which lead back the partly-condensed products to the boiling mass.

What I claim as new, and desire to secure by Letters Patent, is—

1. An apparatus of the character described comprising a main receptacle, a funnel therein, means for heating the receptacle, and means passing through the funnel and the top and bottom of the receptacle for cooling the matter passing through the funnel, substantially as described.

2. An apparatus of the character described comprising a main receptacle, a funnel therein, means for heating the receptacle, a hollow cooling-cover for the receptacle and means communicating with the interior of the cooling-cover and passing through the funnel and receptacle for cooling the matter passing through the funnel, substantially as described.

3. An apparatus of the character described comprising a main receptacle, a funnel therein, means for heating the receptacle, a hollow cooling-cover for the receptacle, and a coil of pipe connected with the hollow cover and passing through the funnel and receptacle, for cooling the matter passing through the funnel, substantially as described.

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

FRANZ HEINRICH LEHNERT.

Witnesses:

PAUL ARRES,

CHEMNITZ H. SCHILLING.