No. 891,731. PATENTED JUNE 23, 1908.

H. PORON.

MUD COLLECTOR FOR STEAM GENERATORS.

APPLICATION FILED AUG. 23, 1906

Fig. 1

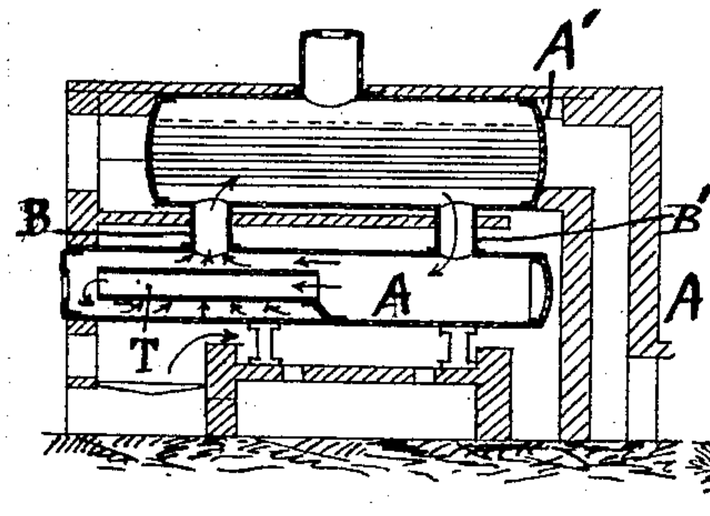


Fig. 2

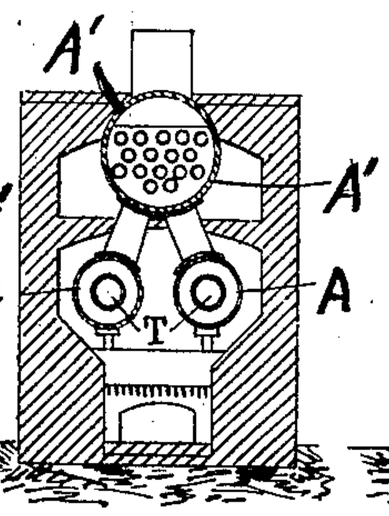


Fig. 5

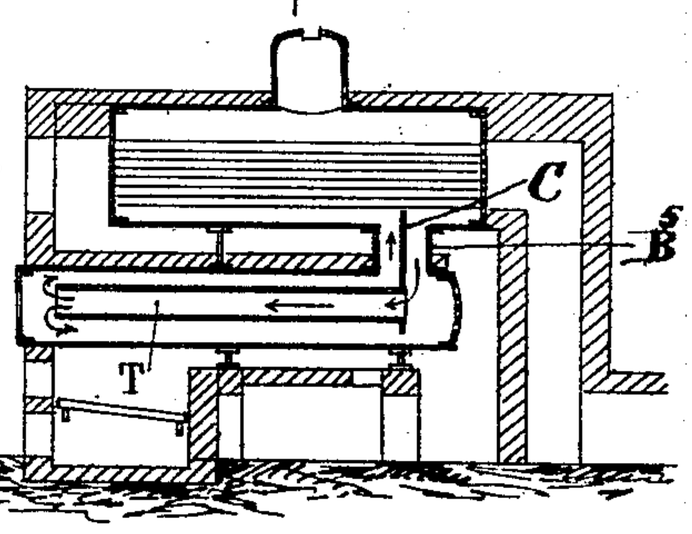


Fig. 4

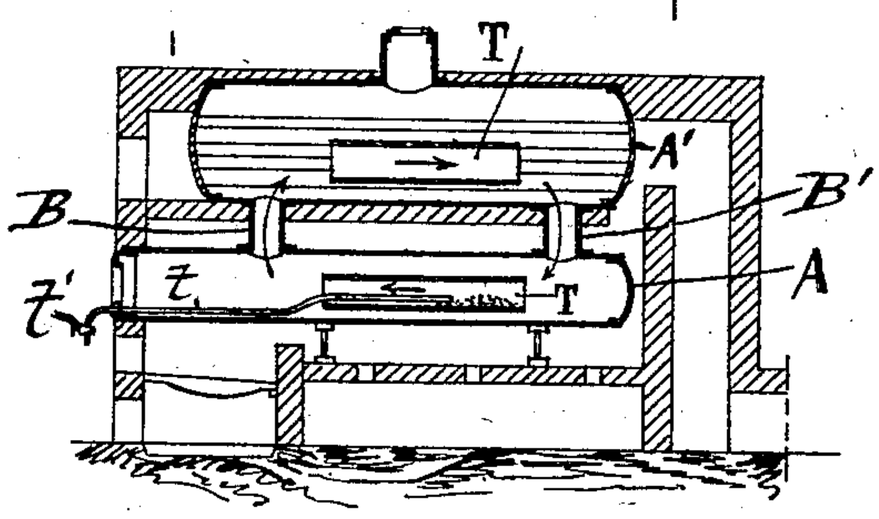
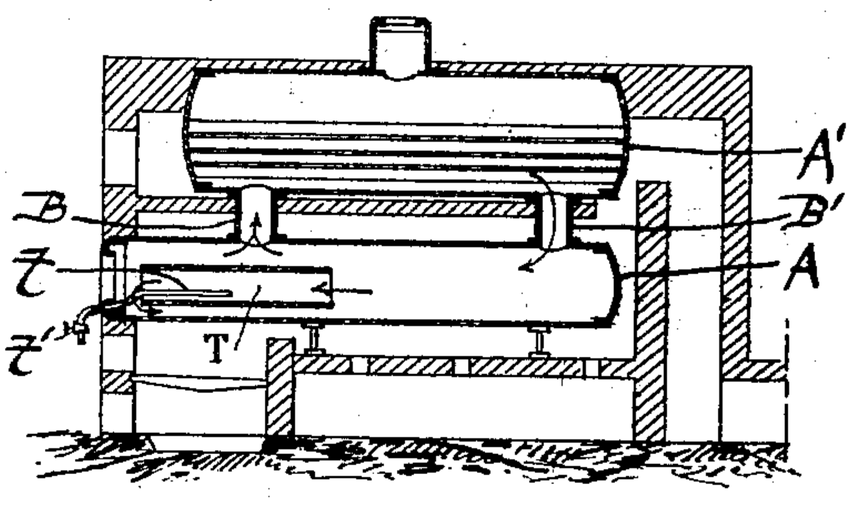


Fig. 3



Witnesses:
E. K. Bond
C. M. Boulton

Inventor
Henri Poron
by H. E. Boulter
Attorney

UNITED STATES PATENT OFFICE.

HENRI PORON, OF TROYES, FRANCE.

MUD-COLLECTOR FOR STEAM-GENERATORS.

No. 891,731. Specification of Letters Patent. Patented June 23, 1908.

Application filed August 23, 1906. Serial No. 331,741.

To all whom it may concern:

Be it known that I, HENRI PORON, a citizen of the Republic of France, and resident of Boulevard du 14 Juillet, 23-Troyes, Aube, France, have invented a Mud-Collector for Steam-Generators, of which the following is a specification.

In those generators which consist of one or more boilers immediately situated over the grate and connected by means of upright tubes to an upper body either tubular or not, a circulation takes place, during the working of the generator, through such connections and the portions of generator and boiler between them.

The portions of boiler exteriorly to the upright tubes do not take part in said circulation. Therefore their production of steam is reduced below what it could be. Furthermore the mud and sediment which are introduced into the generator by the feed-water have a tendency to settle in said portions. It may be stated that overheating in such generators is always caused by this total absence of circulation and this presence of sediment, more particularly in the portion of boilers which is situated over the grate, where the production of steam is greater.

The circulator and collector which forms the object of my invention is intended to produce an energetic circulation through said portions of the boiler, in order to facilitate the absorption of the heat which is radiated by the grate, thus to increase the production and work of the generator, and to avoid through said circulation the formation of adhesive sediment on the heating surfaces.

The circulator and collector could be situated in other points of the boilers, without ceasing to collect the mud and sediment. However, its action on the activity of the general circulation would vary according to its situation.

In the annexed drawing: Figure 1 is a longitudinal section of a semitubular generator provided with my circulator and collector. Fig. 2 a cross section of the same. Fig. 3 a section of a semitubular generator. Fig. 4 a section of a generator provided with circulators and collectors situated in the boiler and in the body of generator respectively. Fig. 5 shows a second disposition of the circulator and collector.

This circulator consists, for each boiler, of:

1st an open-ended metal tube T (Figs. 1 and 2) the section of which is as large as allowed by the opening of the man-hole to mount and dismount for cleaning, and of such length that its rear end goes beyond the front upright tube for a certain distance and its front end remains a little in advance of the head of boiler but leaves a sufficient space for the outfall of the water from tube T into the front portion of said boiler. The tube T may be supported in position in any suitable manner.

2nd, of a mud-tube *t* having perforations and arranged within the collector. This tube which is prolonged exteriorly of the generator is terminated by a cock *t'*, which is operated from time to time, in order to remove the mud which settled between two operations.

In operation the water being heated in the lower water drums A will rise through the front vertical tube B and thence flow rearwardly in the upper water drum A' and down through the rear vertical tube B' and then forwardly through the tube T, depositing its mud therein owing to the water in said tube being in a more or less quiescent state because not being subjected to the intense heat that the water in the lower drums are subjected. The mud in the tube T can be drawn off periodically through the cock *t'*.

For some generators, the front upright tube can even be dispensed with, provided the back upright tube B^5 is divided into two portions by a middle partition C (Fig. 5) descending near to the lower part of the boiler. The circulation will thus take place in the direction indicated by the arrows.

Having now described my invention, I claim the following:

1. In a steam generator, the combination with a water drum, of an open-ended mud-collecting tube arranged therein, and a draw-off tube arranged within the said mud-collecting tube and extending exteriorly of the water drum, and provided with a cock, as described.

2. The combination with a steam generator consisting of an upper water tube, a lower water tube, and short upright tubes connecting the upper and lower tubes, of a mud-collecting tube open at both ends and arranged within the lower water tube and

spaced therefrom on all sides and so positioned relatively to the short upright tubes as to cause the water circulating within the lower tube to pass through said mud-collecting tube before it passes upwardly through one of the upright tubes and deposit its sediment within the said mud-collecting tube.

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

HENRI PORON.

Witnesses:
HANSON C. COXE,
EDMOND LECOUTURIER.