

(No Model.)

C. M. BAUM.

APPARATUS FOR PURIFYING STEAM AND REMOVING EXTRANEOUS
MATTER THEREFROM.

No. 505,085.

Patented Sept. 19, 1893.

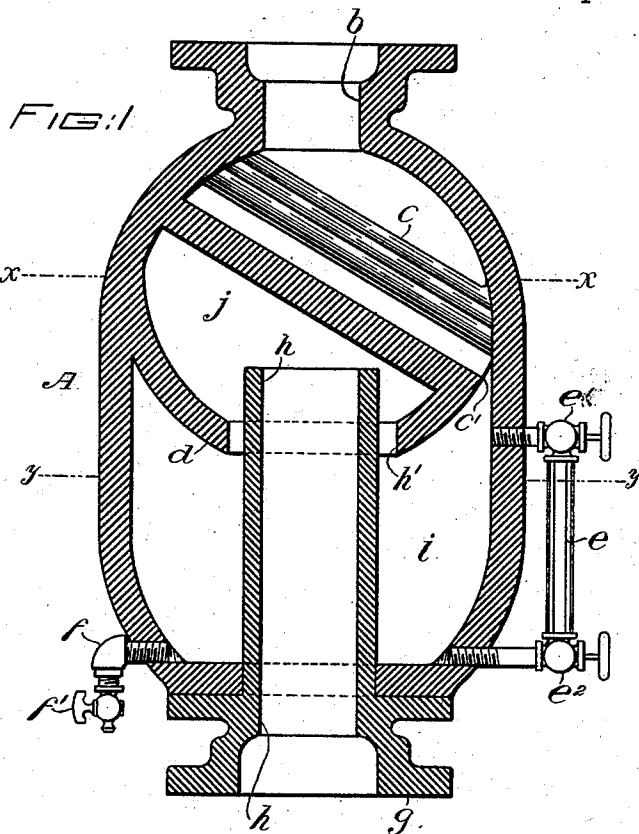


FIG:2

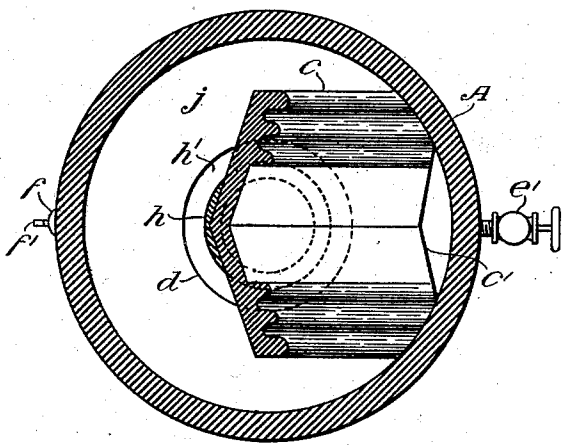
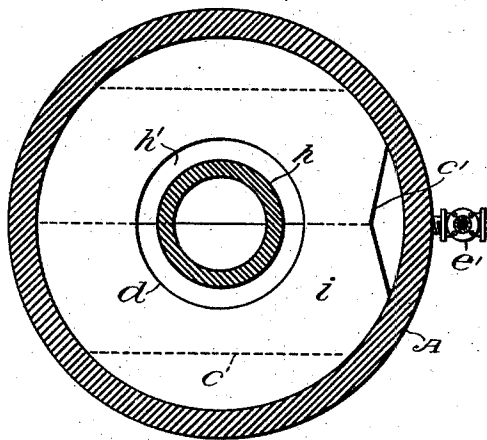


FIG:3



WITNESSES:

W. A. Schaefer
W. Jackson

INVENTOR:

Clarence M. Baum,
By J. Walter Douglass.
ATT'Y.

UNITED STATES PATENT OFFICE.

CLARENCE M. BAUM, OF PHILADELPHIA, PENNSYLVANIA.

APPARATUS FOR PURIFYING STEAM AND REMOVING EXTRANEIOUS MATTER THEREFROM.

SPECIFICATION forming part of Letters Patent No. 505,085, dated September 19, 1893.

Application filed March 2, 1893. Serial No. 464,381. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE M. BAUM, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Purifying Steam and Removing Extraneous Matter Therefrom, of which the following is a specification.

The principal objects of my invention are, first, to provide a simple, efficient and comparatively inexpensive apparatus for purifying live steam by removing entrained water therefrom and for separating extraneous matter as oil, grit, grease, &c., from exhaust steam; and, second, to construct and arrange the apparatus and baffle-plate thereof in such manner that the steam is more thoroughly purified than heretofore was possible.

My invention consists of a steam purifying apparatus, comprising a shell or casting having an inlet conduit, a diagonally disposed V-shaped partially fluted, ribbed or corrugated baffle-plate and a wall disposed adjacent thereto and forming a partition between the steam separating or purifying chamber and the well for the reception of water, oil, grit, grease or other extraneous matter and a base-plate or standard for supporting the shell or casting and provided with a steam inlet conduit or pipe extending through the well into the steam separating or purifying chamber.

My invention further consists of the improvements in an apparatus for purifying steam and removing extraneous matter therefrom, hereinafter described and claimed.

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

Figure 1, is a vertical section through a separator or apparatus embodying the features of my invention; and Figs. 2 and 3, are transverse central views on the lines x, x , and y, y , of Fig. 1.

Referring to the drawings A, is a shell or casting provided with an integral steam inlet pipe or conduit b , a baffle-plate c , an internal perforated partition d , a sight-gage e , and a controlled drip or waste pipe f .

g , is a standard or base provided with a vertical steam outlet conduit or pipe h , extending into the interior of the shell or casting A. The baffle-plate c , formed integral with the casting or shell is diagonally disposed and preferably formed V-shaped and with partially fluted, ribbed or corrugated longitudinal surfaces for retarding the passage of the steam in order to enable water, grit, grease and other extraneous matter to be removed therefrom and to fall or to be conducted off by gravity through a circumferential opening or outlet c' , into a well i .

Beneath the baffle-plate c , is located the centrally perforated partition or curved wall d , which separates the well i , of the device from the steam purifying chamber j , and this partition also serves as additional means for effecting the complete purification of the steam preparatory to its passage through the outlet pipe or conduit h , the water and extraneous matter removed falling by gravity from the surface of the partition through the annular space h' , into the well i , from which the water, grit, grease or other extraneous matter contained therein is drawn off through the waste or drip pipe f , connected with the well, into any preferred receptacle therefor. The gage e , provided with suitable regulating cocks e' and e'' , affords the means whereby the height of the water with its extraneous matter in the well i , may at all times be determined.

The mode of operation of the hereinbefore described apparatus is as follows:—The steam to be purified enters at the inlet b , and impinges against the diagonally disposed V or similar shaped partially or wholly fluted, ribbed or corrugated baffle-plate c , and the removed water with its extraneous matter passes by gravity through the channels of the baffle-plate c , to the outlet c' , into the well i , and at the same time the purified steam passes over the sides of the baffle-plate c , into the chamber j , baffling therein against the curved wall or partition d , and the water with its extraneous matter deposited thereon draining through the space h' , into the well i , and at the same time the steam in its live, dry and clean state passes into and through the outlet conduit h , for use. The water and the extraneous matter contained therein draining

into the well *i*, by the proper regulation of the cock *f'*, of the waste or drip pipe *f*, is removed therefrom into any suitable receptacle, and the overflowing of the well or of the water backing up in the chamber *j*, can be entirely prevented by means of the sight-gage *e*, through an observance at stated intervals of the height of the fluid therein.

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

1. A steam purifier, comprising a shell or casting provided with an internal inlet conduit, a diagonally disposed V-shaped partially fluted, ribbed or corrugated baffle-plate, a chamber for receiving the purified steam separated from the well for water and extraneous matter by a curved perforated partition and a base or standard provided with a steam outlet pipe or conduit and extending through the well into said chamber, substantially as and for the purposes set forth.

2. A steam purifier provided with a diagonally disposed channeled and partially fluted, ribbed or corrugated baffle-plate with an interposed partition or wall separating the steam purifying chamber from the well for the reception of water and extraneous matter and a steam outlet pipe or conduit extending through the well into said chamber, substantially as and for the purposes set forth.

3. A steam purifying apparatus, comprising a standard with an integral steam outlet conduit, a shell or casting mounted on said standard and provided with an integral steam inlet conduit, a baffle-plate and partition separating the steam purifying chamber from the well for the reception of water and extraneous matter, and said steam outlet conduit extending into said chamber, substantially as and for the purposes set forth.

4. A steam purifier, comprising a shell provided with a steam inlet conduit, a diagonally disposed fluted, corrugated or ribbed baffle-plate having a partition in rear thereof and a standard provided with a steam out-

let conduit extending through said partition, substantially as and for the purposes set forth.

5. A steam purifier, comprising a shell having an integral steam inlet conduit, a diagonally disposed V-shaped baffle-plate and an integrally formed curved partition or wall beneath, dividing the interior of the shell into upper and lower chambers, a pipe or conduit extending into the upper chamber and a regulated gage and waste or drip-cock connected with the lower chamber, substantially as and for the purposes set forth.

6. A steam purifier, comprising a shell having a steam inlet conduit, a diagonally arranged V-shaped fluted, ribbed or corrugated baffle-plate provided with a circumferential outlet, an integral partition adjacent to said plate and dividing the shell into two chambers and a detachable base or standard provided with a steam outlet conduit extending through the lower into the upper chamber, substantially as and for the purposes set forth.

7. A steam purifier, comprising a shell having a steam inlet conduit, a diagonally disposed V-shaped baffle-plate, a partition with a central opening therein, a pipe extending through the same, a drip controlled pipe and a gage connected with said shell or casting, substantially as and for the purposes set forth.

8. A steam purifier, comprising a shell provided with an integral inlet conduit, an internal diagonally disposed V-shaped partially corrugated or ribbed baffle-plate with outlets and a partition having an opening therein, a detachable standard for supporting said shell and provided with an outlet pipe or conduit extending into the interior of said shell through the opening in said partition, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

CLARENCE M. BAUM.

Witnesses:

THOMAS M. SMITH,
RICHARD C. MAXWELL.