(No Model.)

J. MOTLEY.

STEAM TRAP.

No. 366,861. Patented July 19, 1887.

Fig: 1.

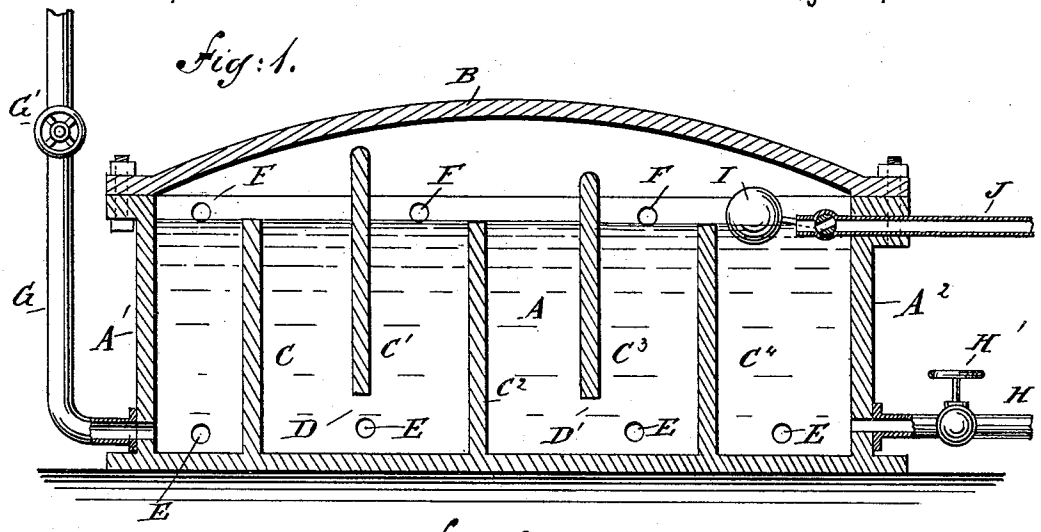
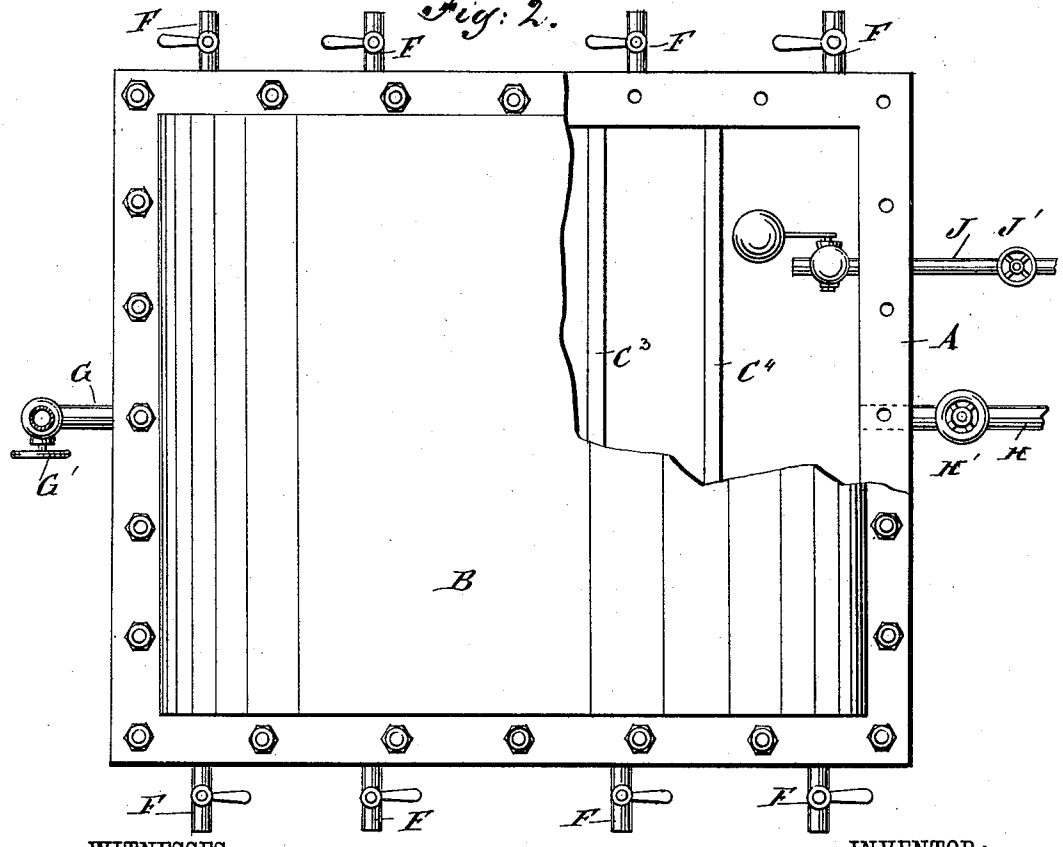


Fig: 2.



WITNESSES:

Chas. Nida.

A. Sedgwick

INVENTOR:

J. Motley

BY Munn & Co

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JAMES MOTLEY, OF NEW YORK, N. Y.

STEAM-TRAP.

SPECIFICATION forming part of Letters Patent No. 366,861, dated July 19, 1887.

Application filed April 20, 1887. Serial No. 235,479. (No model.)

To all whom it may concern:

Be it known that I, JAMES MOTLEY, of the city, county, and State of New York, have invented a new and Improved Steam-Trap, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved steam-trap which prevents impurities in the condensed water from passing to the pump.

The invention consists in the construction, arrangement, and combination of various parts and details, as will be fully described hereinafter, and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a longitudinal sectional elevation of my improvement. Fig. 2 is a plan view of the same with parts broken out.

My improved steam-trap is provided with a casing, A, on the top of which is secured the cover or lid B. In the casing A are arranged a number of transverse partitions, C C′ C^2 C^3 C^4, &c., of which the partition C extends from the bottom of the casing A to a suitable distance below the cover B. The next partition, C′, extends from near the cover B to within a short distance of the bottom of the casing A, thus forming between the lower end of the partition C′ and the bottom of the casing a passage, D. The next partition, C^2, again extends from the bottom of the casing A upward, in the same manner as the partition C, and the following partition, C^3, again forms a passage, D′, between its lower end and the bottom of the casing A′. The following partitions are arranged alternately, as above described, and any desired number of partitions may be employed.

In the sides of the casing A, near its bottom, and between the partitions, are arranged the blow-off cocks E, for the discharge of sediment collecting in the bottom of the casing A.

A short distance above the upper ends of the partitions C C^2 C^4, &c., extending from the bottom of the casing upward, are arranged in the sides of the casing A the blow-off cocks F, for the discharge of the scum floating on the level of the condensed water. Into the side A′ of the casing A, and near the bottom of the same, leads the supply-pipe G, provided with the valve G′, and from the other end, A^2, near the bottom of the casing, extends the water-outflow pipe H, provided with the valve H′.

Between the ends A^2 of the casing A and the next partition is held a float-valve, I, of any approved construction, and operating on the overflow-pipe J, passing through the end A^2 of the casing A, and provided on the outside with the cock J′.

The operation is as follows: The steam and condensed water pass first from the supply-pipe G into the space formed by the first partition, C, and the end A′, and when the water has accumulated to the upper end of the partition C then the additional water flows over the partition C into the next space between the partitions C and C′, and then flows through the passage D to the following space between the partitions C′ and C^2. When the water reaches the upper end of the partition C^2, then it begins to flow over the said partition to the next space, and so on until it finally reaches the space between the end A^2 and the partition next to the end A^2. The water can be drawn off through the outflow-pipe H by opening the valve H′. If the valve H′ is not opened in time, then the float-valve I opens the overflow-pipe J and permits the surplus water to escape through the overflow-pipe J. If sediment has accumulated in the bottom of the casing A, then the blow-off cocks E are opened, whereby the sediment is forced through the cocks E by the pressure of steam and water in the casing A. In a like manner the scum floating on the level of the water in the casing A is discharged by opening the blow-off cocks F.

It will be seen that most of the sediment will settle in the space between the end A′ and the partition, and the amount of sediment decreases toward the end A^2 of the casing A, so that the water flowing off through the outlet-pipe H is almost entirely free from sediment, and can be reused without detriment to the pump usually connected with the pipe H. In a like manner the scum is prevented from influencing the operation of the float-valve I, thus preventing clogging of the overflow-pipe J.

It will be seen that the steam-trap frees the water of condensation from sediment and scum, and can itself be kept clean and continuously in operation.

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

In a steam-trap, a closed casing provided on one end with an inlet-pipe and on its other end with an outlet-pipe, the said pipes opening into the casing near the bottom of the same, and transverse partitions extending alternately from the casing-bottom upward to within a short distance of the top of the casing and downward to within a short distance of the casing-bottom, in combination with blow-off cocks for discharging the sediment and opening into the side or sides of the casing near the bottom, and blow-off cocks for discharging the scum and opening into the sides of the casing a short distance above the upper end of the partitions, extending from the bottom of the casing upward, and a float-valve located in the casing above the said outlet-pipe and adapted to open and close an overflow-pipe, substantially as shown and described.

JAMES MOTLEY.

Witnesses:
E. J. NELSON,
R. M. DUNN.